

Montana



"THE TREASURE STATE"



SOME GENERAL AND STATISTICAL
INFORMATION RELATING TO

ITS RESOURCES AND PRODUCTIONS



HOW TO REACH MONTANA—HOW TO
OBTAIN GOVERNMENT LANDS—THE
CLIMATE AND HYGIENIC CONDITIONS

MINERAL DEVELOPMENT AND PRO-
DUCTIONS—STOCK AND WOOL
GROWING INDUSTRIES—AGRICUL-
TURAL PRODUCTS AND CONDITIONS



IRRIGATING STREAMS OF THE STATE
AND DESCRIPTION OF PRINCIPAL
INDUSTRIES, RESOURCES, ETC.,
BY COUNTIES

Cost of Living, Market Prices, Etc., by Counties

STATISTICS RELATING TO POPULATION, RAILROADS, METEOR-
OLOGY, ALTITUDES, SCHOOL AND CHURCH FACILITIES,
PROPERTY VALUES, INDEBTEDNESS,
TAXATION, ETC., ETC.

PREPARED FOR THE INFORMATION OF INTENDING IMMIGRANTS AND OTHERS
BY THE
BUREAU OF AGRICULTURE, LABOR AND INDUSTRY
JAMES H. MILLS, COMMISSIONER.
1895



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THE IMMIGRATION CONSIDERED DESIRABLE.

(From Second Annual Report of Bureau of Agriculture, Labor and Industry.)

It is not believed to be wise or for the welfare of the State to encourage or solicit immigration beyond that which can readily find employment in the avocations and industries to which it is accustomed and without depriving those now here of work or the opportunity to obtain it. That desirable immigration is believed to be, at present, principally agriculturists whose condition would be bettered by removal from states, where the agricultural conditions are less favorable, to Montana. Coincident with the increase of population on farms and increased agricultural productions, towns and cities will grow; manufactories will multiply; investments will increase and commerce expand.

It is a lamentable but incontrovertible fact that Montana has for many years pursued the suicidal policy, in which merchants, consumers and producers have earnestly co-operated, of importing into the State, year after year, vast amounts of farm products which might have been raised in the State, and millions of dollars annually have been sent out of Montana therefor which should have gone to our home farmers, helping them, increasing their numbers and productions, returning again to merchants and into all channels of industry and upbuilding the State. That something of the extent to which this unwise policy has gone may be known, the matter has been taken up in an investigation by this Bureau, and is treated statistically in another part of this Report. It is stated above that the agricultural producers, or those who might produce, have co-operated with merchants and consumers in encouraging importations rather than home productions. In substantiation of this think how many farmers purchase at the stores imported flour, pork, bacon, hams, lard, cheese, and even in instances the butter, poultry, and eggs they consume, nearly or quite all of which could be produced better and as cheaply by themselves or their neighbors. Nearly every dollar so expended goes out of Montana to enrich other communities that contribute no benefits in return and is lost to the State, while the purchaser perhaps makes complaint that farming in Montana does not pay. No other country in the world having the agricultural resources of Montana pursues so suicidal a policy; no other country could stand such impoverishment. Montana has survived it and prospered, simply because her other resources and revenues were so surpassingly great that it could still prosper under this extraordinary drainage of its vitality. But the agricultural resources have not been developed and have not thriven as they should have done. We have not only sent our money abroad for that which we could not produce, but for that which we could and should produce. Farm wages have been relatively high, and local railroad tariffs extreme; but farm hand wages are materially decreasing; milling facilities have multiplied; merchants and consumers generally have awakened to the benefits of encouraging home productions and home industries, and Railroad Companies, as local traffic and travel develop, will certainly voluntarily reduce, or be influenced to reduce, their local freight tariffs.

As yet this public awakening to the encouragement of home production has principally manifested itself in the increased use of Montana flour; but when that and other farm productions still undeveloped are supplied in Montana markets to the extent they should be, many thousands of additional farms and farmers, with their contributions to the expansion and business of every industry and to the State, will prosper in Montana.

In no State in the Union is there more certainty of good crops every year; in very few is there so great. Crop failures, such as frequently and sometimes for successive years, bring ruin to farmers in many regions, are unknown here. In few states, if any, is the production per acre so great of the cereals and vegetables adapted to and marketable in Montana or available as food to the producer. Irrigation pays in certainty, abundance and the maintenance of fertility. There are yet many millions of acres of inherently the most fertile lands of the State that have not been converted from aridity to productiveness by carrying water upon them and placing them under dominion of the farmer and his plough. There are scores of rivers and smaller streams whose waters flow uselessly by these lands to the sea. Large areas of them can be, as others have been, made cultivable by taking out ditches and canals at a cost that would be soon repaid, or permanently give good interest returns on the investment. Still other millions of acres will require larger expenditures of money, or perhaps municipal, state or government action to supply them with water, and that will eventually be accomplished.

The cultivable, productive acres of the East are occupied; population increases; new homes must be made; new farms found, and the irrigable lands of the so-called arid belt are the last reserve of the Nation. But aside from these acres yet to be developed, there are very many of the large Montana farms that can be acquired, or advantageously subdivided, and their resources more fully developed and their yield increased by farmers who have learned to farm in the hard school of necessity and who develop every resource of their acres. Montana offers an inviting field to these. The market prices of products are shown in the statistical part of this Report. They are probably not excelled, if equalled, anywhere in the United States, and the demand for many farm products is far in excess of the supply.

In the States between Montana and the Atlantic seaboard are tens of thousands of industrious farmers who feel crowded or starved out in the old Communities. Some have been discouraged by fire, flood, drought or tempest. The younger generations grow up and find no productive lands available, or no field satisfying to their ambitions, and many would be glad to emigrate to Montana were its opportunities known to them. Some of substance, some who have only strong hands and willing hearts for capital, have their faces turned to the West, whither for generations all the flow of emigration has tended.

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MONTANA

"THE LAND OF THE SHINING MOUNTAINS"

Discovery, Acquisition, Exploration, Area, Political Formation, Topography, Altitude, Etc.

The first well authenticated record of the discovery of what is now Montana by white men is that of the Frenchmen Sieur de la Verendrye and his sons, who in 1742 with an expedition, entered its domain from the northeast and on the morning of Jan. 1, 1743, first beheld the sunlit, snow covered peaks of the Rockies—"The Land of the Shining Mountains."

For more than half a century France and Spain, for dukedoms or less, shuffled back and forth the title to "Louisiana," which included Montana—a region embracing 1,182,752 square miles, an empire of domain five times greater than that of France itself and which has since been exalted into seventeen states of the Great Republic. In 1800 the title to Louisiana again vested in France. In 1803 Napoleon needed money in anticipation of a threatened rupture with England and offered Louisiana for sale to the United States. The proposal was accepted, and Oct. 21, 1803, Congress ratified the treaty of purchase. "Louisiana" cost, principal, interest and claims assumed, \$27,267,621.98. In 1890 the domain purchased had a population of fifteen and a half millions and taxable wealth exceeding four thousand million dollars.

In 1804 an expedition, recommended by President Jefferson and authorized by act of Congress was organized to explore across the northern part of this region to the Pacific coast, following up the Missouri and down the Columbia. It consisted of thirty-five persons under command of Capt. Merriwether Lewis and Lieut. William Clark, of the U. S. Army. In 1805 they passed through Montana from east to west, and in 1806 returned on nearly the same route from west to east and gave the world the first general, intelligent and reliable account of Montana.

THE TREAD OF PIONEERS.

In 1809 Emanuel Liza established a trading post on the Yellowstone. In 1835 the steamboat Assinnaboine ascended the Yellowstone river to a point sixty miles above its mouth. In 1827 the American Fur Company built a trading post on the Missouri at the mouth of the Milk river. In 1846 Alexander Culbertson built Fort Benton, and July 2, 1860, the steamboat "Chippewa" reached that point. Meantime, in 1840, Father De Smet visited the Flatheads in Gallatin Valley, and in 1842-3 built St. Mary's Mission at what is now Stevensville, Ravalli County, and the latter year planted and harvested there the first wheat. In 1845 he built the St. Ignatius Mission and found the mission school for boys and girls. Thus the pioneers of commerce, religion, education, agriculture and civilization followed in the footsteps of discovery and exploration.

DISCOVERY OF GOLD.

In 1852 Francois Finlay, known as "Benetzee," a nomadic Red River half-breed of Scotch-Indian parentage, who had journeyed to California and back, discovered particles of gold, or "color," on Gold Creek, near where the town of Pioneer, Deer Lodge County, now stands. Of late years it has been published that he washed out an ounce or two of gold and sold it to different persons. Investigation shows that after finding "color" he did sell small quantities of gold dust as stated, but all the reliable evidence is against his having mined it. That claim was never given publicity until nearly twenty years after the alleged event. The gold he sold was undoubtedly brought from California or Oregon and concealed with Indian secretiveness until he was necessitated to use it. All the testimony of investigation is cumulative that "Benetzee" discovered gold, but never mined any. In 1858 James Stuart, Granville Stuart, Rezin Anderson and Thomas Adams, who had been in California, after questioning Benetzee, prospected a few days, sunk a hole in the edge of the glacial morain near Pioneer, and panned out some gold, one pan yielding ten cents, but the gold generally was so fine it could not be saved without quicksilver, and as they had no provisions except "meat straight," they left and went to Fort Bridger. In 1860 Henry Thomas, known as "Gold Tom," dug out four little primitive sluice boxes, sunk a shaft near the same place and washed out some gold. In 1861 the Stuart-Adams-Anderson party returned and in the spring of 1862, with P. W. McAdow, A. S. Blake, John W. Powell, Fred. H. Burr and L. L. Blake, contemporaneous with them on an adjacent claim, set their sluice boxes near where the town of Pioneer stands, and tapped to steady flow the Pactolean stream that has already poured \$200,000,000 of gold into the channels of the world's wealth. Bannack, Alder, Ophir, Last Chance, Confederate, Pilgrim Bar, Silver Bow, Bear, Elk, Cave, Lincoln, Cedar Creek and a hundred other placer fields were opened after Pioneer and yielded lavishly of their golden treasures. These were the days of adventure, heroism and romance in Montana, but a tide of which has been written and even the traditions of which are vanishing day by day, as one after another of the "old timers" is laid to rest beneath the shadows of his beloved mountains.

THE BEACON LIGHTS.

Meantime, Governor I. I. Stevens, under act of Congress March 3, 1853, had explored for the Northern Pacific Railroad a route across Montana, and Capt. Mullen had built the military wagon road from Fort Benton to Walla Walla. But the tide of emigration came not. Here broad and fertile valleys, majestic mountains, cloudless skies, purling brooks and great rivers had vainly offered their enchantments. Here the pioneers of the Church, Education, Commerce, Agriculture and Stock Growing had planted their standards on the crest of the continent and waited lonely for companions; but, as ever, Gold was potent, and the flickering camp fires of the dozen miners beneath the pines at the foot of Mount Powell were the Beacon Lights toward which with shovel, pick and pan, tens of thousand of sturdy men speedily flocked from Orient and Occident to furrow deep and gather golden harvests from the auriferous fields of the coming "Treasure State."

LOCALITY, AREA, BOUNDARIES.

Montana lies between the 104th and 116th meridians west from Greenwich and between the 45th and 49th parallels north latitude. All of Great Britain, Ireland, Belgium, Holland and part of France lie further north than the northern boundary of Montana. Its average length east and west is about 535 miles, and its width north and south about 275 miles. It is the third largest state in the Union. It has a land surface of 145,310 square miles (92,998,400 acres) and a water surface of 770 square miles—total, 146,080 square miles. Its population in 1890 was 132,159, an average of over 700 acres for every man, woman and child in the State. It is roundly estimated that nearly one-third of the lands of the State are arable or agricultural, more than one-third grazing lands, and less than one-third mountainous, the latter generally forest or mineral land. The arable lands are thus greater in extent than the entire area of either New York or Pennsylvania and of New Hampshire, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware and Maryland combined. Montana is larger than England, Ireland, Scotland

and Wales combined; larger than the six New England states with the state of New York added; larger than Minnesota and Iowa combined, and about three-fourths as large as either France or Germany.

It is bounded on the north by the Dominion of Canada, on the east by the Dakotas, on the south by Wyoming and the Yellowstone National Park and on the west by Idaho.

POLITICAL FORMATION.

That portion of what is now Montana, which lies west of the Rocky Mountains was embraced in Oregon when it became a territory in 1848. That portion of Montana which lies east of the Rocky Mountains was embraced in Nebraska when it became a territory May 30th, 1854. When the territory of Idaho was established March 3, 1863, it included Montana. The Territory of Montana was established by act of Congress May 26th, 1864, having the same boundaries as at present, except that in 1873 it received an accession of 2,000 square miles on the southwest corner from what appears to have been a stray fragment in previously adjusting boundaries. Montana was erected into a state Nov. 8th, 1889.

TOPOGRAPHY AND STREAMS.

While Montana derives its name from a Spanish word signifying "mountainous," only a little over one-fourth of it is mountainous. The eastern two-thirds are generally level, undulating or table lands, and in the western third, which laps over the Rocky Mountains, nestle many of the most fertile valleys, some of them of great extent. The main range of the Rocky Mountains trends northwest and southeast across the western part of the State. Its general elevation at the crest does not exceed 6,500 feet with perhaps a dozen peaks reaching 9,000 to 11,500 feet. A number of lesser ranges, such as the Cœur d'Alene, Bitter Root, Tobacco, Belt, Bear Paw, Crazy and Snowy Mountains spur off from the main range or rise in isolated groups. The two principal rivers draining the eastern part of the State are the Missouri and Yellowstone, which contribute their waters through the Mississippi to the Gulf of Mexico. They are navigable for many hundreds of miles. The Columbia river, which empties into the Pacific Ocean, drains part of the State west of the Rocky Mountains. All these have innumerable tributaries, and living springs of clearest and purest waters gushing out from the mountain side to rivers' edge maintain their generous flow throughout the year. There are many beautiful and some large lakes in the mountain region, especially in the northwestern portion. Montana is conceded to have the finest river systems of any state, and while it is the best watered it requires less water per acre to irrigate by reason of smaller evaporation. It is not the purpose to dilate on scenic attractions, but it may be stated as a matter of practical interest that there are no obstacles to travel and no impassable mountain ranges in the State. Except near the very crest of the mountains, the acclivities are usually gentle and of easy ascent. There are natural wagon roads everywhere throughout the arable and grazing country, intersecting each other in every direction, and there are passes only short distances apart even in the main range. The breaking down of the Rocky Mountain range within Montana is a notable characteristic, giving railroads lighter grades with less obstruction from snow and enabling access to mining camps and mines with little or no road building.

GENERAL ALTITUDES.

The report of Professor Gannett, of Hayden's survey, shows the average altitude of Montana above the sea level is 3,900 feet. The average of Nevada is 5,600 feet; of Colorado, 7,000 feet; of New Mexico, 5,560 feet; of Wyoming, 6,400 feet. None of Utah and only 9,000 square miles of Colorado is below 4,000 feet. Gannett's tables show that 51,600 square miles of Montana are less than 4,000 feet, and 40,700 square miles are less than 3,000 feet above sea level. The valleys up to 5,000 feet, however, are among the most productive in the State. Altitudes of places in the respective counties appear in the statistical tables.

U. S. Census Bulletin No. 153 says: "Taking the area of the State (Montana) as a whole, it has been ascertained that 49 per cent is under 5,000 feet above sea level, 21 per cent from 5,000 to 6,000 feet, 14 per cent from 6,000 to 7,000 feet, 9 per cent from 7,000 to 8,000, and 7 per cent over 8,000."

GENERAL OBSERVATIONS RELATING TO MONTANA.

The numerous inquiries from persons contemplating emigration to Montana, especially agricultural people, for general and specific information concerning the State not obtainable in any publication of official character, and which cannot be given fully by letter, is the occasion of the preparation of this pamphlet, authorized by the law of the State. There are also prepared and herein assembled other statistics of the State not conveniently obtainable elsewhere. It is not designed to be a "boom" publication. It is not a historical, pictorial or descriptive work on Montana. Either of these fields are too large to cover with the very limited means at disposal. It merely outlines some of the salient features, and gives statistics important to intending settlers that have not been included in railroad or other publications accessible to them. The inquiry for this has been so great its preparation seemed imperative. The endeavor has been to give exact figures where they were obtainable and of as recent date as available. Where estimates were necessarily resorted to the more conservative from reliable sources have been given rather than the extreme. It is probably not free from errors, but the best possible under the circumstances has been done, as far as it goes, to present fairly and plainly some useful and reliable information concerning Montana.

As conditions are at present it is not desired to encourage by this pamphlet the immigration of laborers, clerks, mechanics, miners and those following kindred pursuits. There are as many of these in the State as can obtain employment at present, and the professions are well filled. Where there are opportunities of this character those knowing of them generally send for persons in or out of the State to fill the places.

But, very many farmers, especially those in the states east and southeast of Montana, are looking to this State with a view to removing here and in the hope of bettering their conditions. It is believed there is an inviting field here for such persons who have some means and equipment to start in a new country, who can and will largely do their own work, and are willing to do here to prosper what they have to do elsewhere to exist. Fires, floods, drouths or cyclones and "hard times" have discouraged them in present locations. Montana farming areas have no forests surrounding to sweep the farm lands with fire. No destructive floods submerge them. Irrigation renders the farmer to a great extent independent of rainfall. He may have a lighter crop in exceptionally dry seasons, but with good irrigation facilities, which he should secure in the sections requiring them, a crop failure from any cause need not be apprehended. The record of the agricultural productions given in succeeding pages, covering the annual average productions of crops for twenty years, is submitted in evidence. Cyclones, the terrors of the interior states, are wholly unknown here, and losses by hail, frost or insects are of such extremely rare instance they are scarcely to be considered. The business and financial depression that has enveloped the land, although effecting Montana seriously, has been less felt here than elsewhere, and, despite the vicious war on silver, one of the chief products of the State, her varied and magnificent resources enabled Montana to weather the financial storm better than any other state in the Union.

While it is not deemed for the welfare of the State, or of its resident or incoming people, to promote or encourage immigration more rapidly than it can find remunerative employment, establish prosperous enterprises, or engage in productive pursuits that offer good opportunities; and while the State, under present conditions, is fully supplied with laboring people, it is believed there are, aside from the great mining industries, investors and operators in which are reached

through other channels, opportunities unexcelled for some classes of immigrants in Montana, and opportunities for many enterprises incidental to agricultural development, etc., as shown in reports from the respective counties.

It is believed thousands of farmers in other states, who do principally their own work, who are industrious, frugal and temperate, and who would be willing to farm here as they have to do

PREVAILING CONDITIONS

AND

POSSIBILITIES.

elsewhere, could better their condition by coming to Montana, purchasing small improved farms with water rights, or settling on lands under the larger canals that have been, are being, or will be taken out from the great streams to cover the arid lands. With the productiveness of soil, climatic conditions and market prices shown in the following pages, and the capabilities of the State for supplying many times its present population with agricultural products, the tables also show that Montana sends abroad for more than half the flour, pork bacon, ham, lard, butter, cheese and eggs consumed in the State. She is sending out of the State annually millions of dollars for products and manufactures that should be produced or manufactured here.

The majority of our farmers have not been inured to farming as it has to be done elsewhere to make it pay. They have generally larger farms than they can successfully cultivate themselves and farm wages have been high. They have not generally practised diversified farming, or developed all the resources of their farms. The days of the "little farm well tilled;" of dairy-ing, poultry and pork raising, of smaller bands of well cared for stock, and of persistent industry and economy have come, and they who adapt themselves to the new conditions prosper. Given health, industry, frugality and determination to succeed, and reasonable means to start and sub-sist the first year, there is no reason why an incoming family with a fair proportion of working hands in it should not own a paid for farm in Montana in six years after turning the first furrow and be independent in ten. It presupposes judicious location, energetic and intelligent work and thrifty habits, but there are tens of thousands of farmers in other states, who with the appli-cation of all these qualities to their business for many years, have made no headway, and there are others of the younger generations in more favorable locations who find no room for them in the older and crowded communities. Many of these people could better their conditions by re-moving to Montana. Many are inquiring concerning it, and it is for their information to a large extent the following pages have principally been prepared.

Aside from the raising of crops, there are near by almost every farming area extensive public lands on which bands of stock may graze free. Every farmer may thus also be a stock grower, and where hay and grain markets are remote it is frequently found most profitable to feed the cattle, sheep or swine and thus market the grain and hay at favorable seasons "on the hoof."

STOCK RAISING.

The difference in methods, however, as between farming where rainfall is depended upon and where irrigation is used; as between settlements where lands are hilly and have to be

LOOK BEFORE

YOU LEAP.

"cleared" before cultivation as in many other states, and the tillable lands of Montana, which lie almost level and ready for the breaking plough, and the conditions as relate to climate, seed time and harvest are so diverse and varied as between Montana and the eastern States that a due regard for the ultimate welfare of those who contemplate immigration to Montana, and for the State, renders it wise for those who contemplate immigrating, especially where there are several persons or fami-lies, to "prospect" the country before immigrating to it. This is in every view the better course. A number of persons can send one or more in whom they have confidence some months or a season in advance of their contemplated removal into such portions of the State as they regard favorably and have such person or persons after actual observation and sojourn report to them. He or they may either return to them, or remain and prepare for their coming. It enables a choice of locali-ties, and understanding of all the conditions, immediate and favorable location and is more sat-isfactory in every respect.

The State has not made any provision for aiding immigrants, but all the transcontinental railroad companies give low rates to intending settlers and on immigrant movables. These may be ascertained at any time by addressing the "General Passenger Agent" of the respective roads. These officers are located as follows: The Union Pacific at Omaha, Nebraska; the Northern Pacific and Great Northern at St. Paul, Minn., and the Burlington & Missouri River branch of the C. B. & Q. at Omaha, Nebraska or Chicago, Illinois. Their main and branch lines cover almost the entire State.

**FAVORABLE
TRANSPORTA
TION RATES.**

Probably no more mistaken ideas prevail among people who have never visited them than those relating to the topography and climate of the Rocky Mountain regions, and especially those of Montana. The pictures in ancient geographies of crowded, confused and endless successions of peaks and cliffs of desolate rock, and descriptions of regions where polar bears play hide and seek the year round over great glaciers and through eternal snows, while icy blasts sweep in fury from the arctic seas, have left their "bugaboo" impress on generations. The fact is more than two-thirds of Montana is "prairie" land; the average temperature is about the same as in New York or Pennsylvania; the snowfall in the valleys is less than the average in either of those states; there is more sunshine than in any middle, eastern or New England state, and the great mountains, ribbed with veins of gold, silver and copper and crowned with majestic forests, are but gigantic frame work in which are set great picture valleys, bench lands and foot hills fertile as the valley of the Nile, and which never yet have refused to yield bounteous harvests when touched by the hand of industry and nourished with water.

**MISAPPREHEN-
SIONS
CORRECTED.**

The climate is healthful and exhilarating, the waters pure and clear, and mineral springs abound throughout the State. Malaria and fogs are unknown; contagions or infectious diseases are extremely rare and yield readily to treatment and control. The thermometer for short periods in winter runs comparatively low, but owing to the dry, light air the effects are felt much less than in heavy, humid atmosphere. Twenty degrees below zero in Montana is not felt as severely as ten degrees above zero at sea level. Intensely cold weather in Montana, especially in the western two-thirds, is almost always calm weather. "Blizzards," as known in the eastward states, do not prevail in the higher lands of Montana. Stock cattle and horses graze unsheltered through the winter over all the grazing lands of the State, and feed on the standing grasses that cure as they grow in the stalk. The substance is not leached out by rain. The snowfall in the valleys does not average as great as in the eastern states, in fact is lighter in most than is desirable for fall sown grain. Railroads are scarcely ever impeded by it. Even in the severest winters the Japan current of air, locally known as the "Chinook" frequently clears the valleys and foothills of snow in a few hours, and a "cold snap" may turn to springlike warmth in a day. This current materially modifies the temperature in Montana. Tornadoes and cyclones are unknown. Autumn is the finest season of the year, clear, bracing and peerless. "Winter" rarely sets in steady until about the Holidays, "flaws" before that being succeeded by fine weather. There are exceptional seasons, but this is the rule. The winter generally breaks in March, sometimes in February, but the weather is capricious until May. It is believed that nine out of ten persons who have lived in Montana prefer its climate, the year around, to that of any other place they have lived, and if temporarily away return to it asserting its supremacy and their content. The majestic mountains, the broad valleys and limpid streams; the brilliant blue sky from horizon to zenith; the clear, dry, vitalizing atmosphere which it is a luxury to breathe; even the winters cold, which is external rather than penetrating, and the sunny summer days, ever succeeded by evenings and nights of refreshing coolness and restoring sleep, endear Montana to its people and make it an inviting home for the healthful and a sanitarium for health seekers.

**CLIMATIC
CONDITIONS.**

The area of Montana is 145,310 square miles of land and 770 square miles of water surface. Roundly estimated one-third are classed as "arable," that is land susceptible of cultivation if irrigated, one third as grazing lands and one third as forest and mineral lands—the gold, silver and copper veins being generally in the mountainous, timbered country. This estimate would give 30,000,000 acres

**ARABLE AREA
NOW
UTILIZED.**

of lands susceptible of cultivation if water were available for them. The assessors' reports for 1893 show only 1,500,495 acres were under fence in Montana, that only 395,290 acres were cultivated, and that of this 253,374 acres were hay lands, leaving only 131,916 acres in grain, vegetables, etc. It is not assumed that anything like the number of acres classed as "arable" can be reduced to cultivation unless there is a radical change in meteorology, but with the diversion of the larger streams and storage of waters, to say nothing of artesian wells, the area of cultivated lands may be very largely increased.

Farming so far has been largely confined to the first bottom lands along the streams from which water can be cheaply diverted. Ditches are constructed from these streams conveying the water to where needed, or to where smaller ditches are led off where required and the water distributed from them by shallow furrows, or tracings, over the fields. This is called "irrigating." Grain is thus ir-

**THE CULTIVATED
LANDS.**

rigated one to three times in a season, depending on the rainfall, and is discontinued before the grain begins to ripen. The yield of hay lands is greatly increased by irrigation. The bottom lands, as well as the bench lands, are nearly level with just enough grade to distribute water. The soil is generally quite deep in the bottoms. The "bench" or second bottom lands are very extensive, fully as productive, lie favorably for irrigating and are preferred as being warmer soil, although not as deep. They are practically illimitable. It generally requires larger and longer ditches to put water on them. Back of the bench lands are the foot hills, usually rising gradually with gentle slopes in the western part of the State to the timbered mountains and in the eastern part to the undulating grazing lands. Very little land is fenced except that enclosed for cultivation. It lies at common and is available for free grazing to all. There is timber, principally cottonwood or pine, along most of the streams. The mountains, and much of the hill country, are forest covered and free to all. The width of the valleys varies from narrow strips to 10, 20 or 30 miles in width, and frequently of greater length. These valleys were once under water. Where these waters broke through barriers toward the sea the valleys narrow up and terminate as distinct valleys, and where these passages are between high walls, they are called canons.

In the extreme western part of the State, notably in Flathead County, and in some portions of Missoula, Gallatin and Cascade Counties crops are raised without irrigation. It is believed that on the foothills along the flanks of a number of mountain ranges where rains are much more frequent, there are other considerable areas that can and will be successfully cultivated without irrigation; but there has been so much valley land available, and there are so many streams that can yet be diverted or their waters stored, that these uplands have not received much attention. In other arid countries they were left until the valleys were occupied, but despite all skepticism of old timers developed as superior grain producers

RAINFALL AREAS

Nearly all products of the soil that can be grown in the eastern, middle or western states are successfully cultivated in Montana, and in most instances, as shown by crop statistics in succeeding pages, yield much more abundant harvests. Among the principal cereal productions may be named wheat, oats, barley, rye and buck-wheat. Flax and broom corn are being cultivated successfully. All the grasses grow luxuriantly. All root crops and vegetables yield enormous crops. Except in the lower western and eastern valleys, corn, melons, grapes, tree fruits and productions requiring similar seasons have not been extensively cultivated. The lower western valleys and the eastern where tried, are adapted to them.

**CROPS, FRUITS
AND FLOWERS.**

Ravalli, Missoula and Flathead Counties lead in fruit raising and produce for market

abundant crops of very superior standard apples, pears, plums and cherries. In all valleys crab apples, small fruits and berries grow abundantly, and in many of the higher ones in sheltered localities gratifying success has been had with standard apples and other fruits. The selection of proper varieties, judicious location and intelligent care have much to do in achieving success in fruit raising, and while in the higher valleys it is largely experimental, we have our own experience in many productions, and of other regions in fruit raising, that earlier and less repaid efforts are frequently succeeded by most satisfactory results. Montana abounds with native flowers of beautiful form and brilliant hue. Cultivated gardens produce all the hardy, and many of the half hardy and tenderer varieties of flowers in brilliant color. The long light of summer days at this latitude and the cool nights of summer are particularly favorable to a number of varieties. Many places where a few years ago it was theoretically accepted that flower raising was impracticable, are now beautified with gardens brilliant through all the summer months. The full capabilities of a country are rarely ascertained by its earlier pioneers.

Nearly all wheat is sown in Montana in the spring. Crops are generally put in in April or the first half of May, sometimes as early as March. The showery season is generally in the latter half of May and the first half of June, so that irrigation of grain is not general until after that period. The snow, which falls deeper in the mountains, is held in the forests and canons and feeds the irrigating streams after the rainy season is over. Harvesting is done in July, August and September—sometimes even later. These are usually dry months, offering little interruption to work and resulting in bright, dry harvested hay and grain. Threshing is usually done in the fields from shock or stack. Hay is put up in ricks in the meadow and baled, fed or removed when occasion requires. There are few large barns. Extensive corrals and sheds serve their purposes.

SEED TIME AND HARVEST.

In nearly all portions of Montana irrigation is necessary to insure good crops. In Flathead County and in some portions of Gallatin and Cascade Counties good crops are raised without it, but as a general rule irrigation is essential. The lesser streams in low banks from which water could be diverted at small expense have been largely appropriated by adjacent farmers. They supply only a small portion of the arable lands of the State. It is only recently that capitalists began to construct great ditches and canals conveying water from the larger streams to remote bodies of arid land with the object of selling or leasing lands and water on them to farmers. Some of these are now in operation and farmers are acquiring rights under them; some are being constructed and others will be. Those in operation from which reports could be obtained are noted hereafter. The State also, at the session of 1895, accepted the terms of the Carey act donating to it 1,000,000 acres of arid lands on condition of reclamation by conveying water thereon. These lands will be disposed of to settlers. Reference to the act appears on succeeding pages.

RAINFALL AND IRRIGATION.

Settlers may obtain lands: 1. By securing locations on public lands in those exceptional localities where irrigation is not necessary. 2. By purchasing lands of the State or the Northern Pacific R. R. Co., where there are bodies of land yet obtainable that do not require irrigation, or for which water can be obtained. 3. By securing those other exceptional locations along lesser streams not yet all appropriated where water can be diverted at moderate outlay. 4. By buying or leasing water or lands from the Irrigation Companies that deal in lands or water. 5. By awaiting the construction of irrigation canals under the provisions of the Carey act, or 6. By purchasing improved lands and water rights from those who have heretofore acquired them and wish to sell all or part of the same.

LANDS OBTAINABLE.

The United States has yet some 70,000,000 acres of public lands in Montana that may be homesteaded, taken under the desert land act, or otherwise obtained through the local United States Land Offices.

The State has over 668,000 acres of land granted to it by the United States for public buildings and institutions, over half of which have been selected by the State and much of which still remains its property and can be sold at not less than \$10 per acre, or leased for five years by the

State Board of Land Commissioners at not less than five per cent of the appraised value. The Northern Pacific Railroad Company has a grant of nearly 19,000,000 acres of land (alternate sections for forty miles on each side of its main line) much of which remains for sale at reasonable and recently reduced prices.

On succeeding pages are given the methods by which the title to public lands may be acquired from the United States. The waters of the State are free. The Constitution of the State provides that all appropriated waters for any beneficial use, and the right of way over the land of others, shall be held to be a public use. Any person having title or possessory right to any agricultural lands in the State is entitled to the use of the waters of any stream which have not been previously appropriated, sufficient to make said land available for agricultural purposes to the full extent of the soil thereof, by posting a notice of appropriation at the point of diversion and filing the same within twenty days with the County Recorder. Thereafter, within forty days after posting of the notice, he must proceed to divert the water claimed and work diligently to carry it to his lands. When he or his successor ceases to use the water the right ceases.

ACQUIRING LAND AND WATER RIGHTS.

Many persons emigrating to a new country, especially those having means, prefer going into and purchasing in well settled communities, where titles have been obtained, where lands have been partially cultivated and improved, where water rights and ditches are ready for immediate use and where schools and churches and market cities or towns are already established within easy access. In all countries farming lands are for sale. In this State many of the early land owners secured unusually large holdings as instanced by the fact that the average size of farms in 1893 was 257 acres. Very many of these could be reduced in size with advantage to both purchaser and seller. Families are broken up; people change avocations; estates have to be sold; improvidence and discontent have their victims, and a hundred causes result everywhere in farms changing hands. Which of these methods is best for the incoming settler to adopt and where is best to locate are matters to be determined by himself, and emphasizes the recommendation heretofore made that it is best to investigate personally, or through a reliable representative, before selecting a location. A little time and expenditure earlier may save mistakes and regrets after.

Law and order are supreme in Montana. The laws of the State for the protection of personal and property rights are equal to the best in the world. The United States, State and County Courts and township justices exercise their full functions under the laws and are respected and sustained without thought of dissent. Officers are capable and efficient. Infractions of law are not more frequent than in other of the most law abiding communities in the United States, and offenders are invariably dealt with promptly by the regularly constituted authorities. The "penny dreadful" stories of the West that get into sensational print, so far as they relate to Montana, are almost without a solitary exception unadulterated fiction. The "Indian" question was settled with the advent of the railroads, and Indians nowadays, if not abiding peaceably on their reservations, are only picturesque relics in the communities from whom no harm is experienced or apprehended.

There are organizations of one or more of the religious denominations in almost every community in the State, however small. In 1894 there were 10 Congregational, 31 Presbyterian, 46 Methodist Episcopal, 17 M. E. Church South, 31 Episcopalean, 14 German Lutheran; 18 Baptist, and 19 Christian Churches, Missions or Organizations with 9,872 members and 13,931 Sunday school scholars, and 94 Roman Catholic Churches, Missions or Organizations with a membership of 29,309. There is a Unitarian Society in Helena with permanent minister and a membership of 145. There are a number of other religious organizations in the State of which no statistics are available. Location of these several congregations generalized above are given in succeeding pages.

In 1894 there were in the State 529 public school houses and 801 teachers with 25,270 pupils

CHURCHES AND SCHOOLS.

enrolled. Besides there were 32 private schools with 839 pupils. The wages of male teachers averaged \$65.20 per month and females \$46.95. The total expenditure for teachers' wages was \$373,583. The expenditure per capita of average attendance was \$42.28. The value of school houses and grounds was \$1,660,730. The population did not probably exceed 170,000. There are institutions for higher education in a number of cities and towns and the State University, Agricultural College, School of Mines and State Normal School, beside other institutions, are largely endowed.

There are twenty-nine Main or Branch lines of standard guage railroads in Montana, having a total length of 2,712 miles in the State. One or more of these is in operation in every county of the State except Fergus, and nearly all principal valleys, cities, towns and mining camps are now accessible by rail. These railroads are generally well equipped with frequent service. There is no State law regulating traffic rates or fares. Straight fares range from four to five cents per mile with reductions for round trips and 3,000 mile mileage books good during the year are sold at two and a half cents per mile. One of these on the Great Northern or Northern Pacific is good for a round trip from St. Paul and will also enable the owner to visit a large portion of the State and to stop off at any station desired.

RAILROAD FACILITIES.

While these pages are principally intended to convey information of interest to agricultural people contemplating removal to Montana, it is proper to state that other productive resources rank higher as producers than the agricultural. Aside from stock growing, it may be said that other industries depend largely for their prosperity on that of mining. The silver product of Montana in 1894 as computed by the Director of the Mint, was \$16,575,458, second only to Colorado; the copper product value was \$17,233,719; gold product \$3,868,429. The aggregate product of gold and silver in Montana, to include 1894, approximated \$440,000,000; and of copper from 1882 to the same date, \$140,000,000. Montana in 1892, the latest date for which comparative statistics are available, produced one-half the copper of the entire United States, and one-fourth the product of the entire world. The production has since been fully maintained and is being largely increased. The mines are practicably inexhaustible. Silver production has been kept down the past two or three years by the low prices consequent on vicious legislation. The production of gold has considerably increased. These great industries and those auxilliary to them, are the vital energies of the State, giving employment to tens of thousands of people, building up prosperous cities and towns, making markets for other products of the State and contributing to railroads nine-tenths of their traffic. The older mining camps are maintaining or increasing their product, and new ones are being opened year after year. The State is only partially prospected as yet. It has iron, coal, lead and timber in inexhaustible quantities and great smelters, mills, furnaces, refineries and manufactories will soon be added to those operating. It has water power at Great Falls and elsewhere equal to Niagara. Montana is the Pennsylvania of the west, with the precious metals in addition to the resources of the Keystone state, and is developing with amazing rapidity. Of course such industries as these make many opportunities for profitable investment and business enterprises, draw to them the brightest and most energetic men and establish communities that are in the fore front of all that is advanced, enterprising and progressive.

Stock Growing is another principal industry. Those engaged in it are largely independent of all local conditions except the weather. The public lands are free everywhere. The laws of the State and the rules and administration of the Stock Growers' Associations protect and promote the industry. The grazing areas of the State, those chiefly occupied as stock ranges, cover more than

STOCK GROWING INDUSTRY.

forty thousand square miles. Cattle, sheep and wool are mostly marketed in the east. The State in 1894 shipped to Chicago principally 242,655 head of cattle and marketed at home 60,000 head, the market value being \$10,600,000. There were 642,427 stock cattle assessed in the State. The wool clip of 1894 was 17,032,834 pounds, yielding \$1,703,283. Besides this probably 150,000 mutton sheep were marketed. There were 2,228,875 sheep assessed in the

State. For several years there has been little sale for common horses, of which there were 185,000 head assessed in the State in 1894. The State is unexcelled for the production of fine horses. Some of the best and most favorably known breeding stables in the United States are in Montana, and their product has made the State famous on the principal courses of the country. The great herds of cattle graze the year round without other feed than the standing grasses and without other shelter than nature affords. Heavy losses sometimes occur in very severe winters, but these are exceptional. The tendency is, however, to smaller herds, winter shelter and feeding for four to six weeks if the conditions require it. Sheep are grazed under the care of herders. They are driven to corrals or sheds at night in winter and fed when necessary.

There are from 10,000,000 to 12,000,000 acres of what may be denominated forest lands in the State, aside from the timber that grows along the streams, or in isolated areas in the prairie portion of the State. These forests are generally in the western and mountainous portions of the State, the mineral country being usually wooded. The timber of the forests is principally pine, fir, cedar and

TIMBER AND COAL.

tamarac. The timber is of excellent quality and is used for mining, building and manufacturing purposes. It is almost entirely on public lands and may be cut for all domestic purposes by farmers and others. Its export is not permitted. Immense quantities of timber and lumber are used in the mining industry. In 1893 there were 88,000,000 feet of timber and 500,000 cords of wood cut in Montana. In 1894, owing to the depression in the silver industry, the amount cut was materially less. Coal, which abounds in the State, and is known to exist in quantity in at least 19 of the 23 counties, is being rapidly developed and is in large measure displacing wood as a fuel with the great consumers. The product of coal by eight companies in 1894 was 732,666 tons. Heretofore coal has been largely imported. Coal mining is as yet in its infancy as a commercial industry, but the quality is good and the measures very extensive. Dr. George C. Swallow, M. E., estimates the coal beds of Sand Coulee and Belt will yield 6,000,000 tons per square mile, and these are but two of the many coal areas in the State.

The foregoing relates generally to the State. In succeeding pages some details are given. It is necessarily done concisely and therefore consists largely of tabulated statistics. The immensity of the State; its diversified industries; its varied and magnificent resources now developed, or as yet in many instances undeveloped, would require volumes to describe at length. In some

OTHER PUBLI- CATIONS.

stances Counties, Cities, the Agricultural College, Industrial Conventions and Railroad Companies or other private enterprises have taken up this work as relates to particular localities, subjects or industries, and maps and ampler details can be had therefrom. This is designed to supply some facts of value they have not presented, and are not otherwise obtainable in concise form. Where request is made by intending settlers this Bureau will supply without charge such other particular publications or information as it can obtain.

While perhaps there is not hot weather enough to make this a favorite home for hogs, it is undeniable they do splendidly and they add considerably to the economies and resources of the farm. Hogs feed, thrive and fatten here on clover, alfalfa, wheat, barley, field peas, etc., and it is sometimes better to market these products in pork when markets are remote. The Montana pork is preferred for its freedom from disease, and its superior flavor from the kind and quality of feed. It has and should have preference in the markets and on the table. And yet nine-tenths of the hog products consumed in the State have been imported. This should not continue.

A "canyon" (Spanish, *cañon*) is where a stream passes between high, and frequently precipitous, walls. The word has the same general significance as gorge, defile or ravine.

CLIMATE AND HYGIENIC CONDITIONS.

MONTANA A "MECCA" FOR THOSE SEEKING HEALTH AND HOMES.

(Prepared by C. K. Cole, M. D., Ex-President Board of Medical Examiners of Montana.)

To the intelligent person, contemplating taking up his residence in a new country, one of the first inquiries will be as to the health conditions. In the brief space afforded it is impossible to give exact statistical information, but it may be of interest to suggest a few thoughts as to why Montana possesses, in a superior degree, the conditions essential to healthfulness and longevity.

During the year ended Jan. 1st, 1895, the death rate in the city of Helena was 9 per 1000 inhabitants, in Butte 11.5 per 1000 inhabitants and in Great Falls 9.22 per 1000 inhabitants. These figures are obtained from the official records of Vital Statistics, and represent the death rate from all causes.

Of the deaths in Helena the following is a correct summary and classification:

Suicide.....	3	Congestion.....	2	Dysentery.....	2
Still Born.....	10	La Grippe.....	2	Cancer.....	5
Uræmic Poisoning.....	1	Angina Pectoris.....	1	Obstruction of Bowels..	1
Hemorrhage.....	1	Bright's Disease.....	6	Cholera Infantum.....	6
Tabes.....	1	Bronchitis.....	3	Encephalitis.....	3
Gastritis.....	2	Dropsy.....	3	Peritonitis.....	3
Consumption.....	14	Unknown.....	3	Whooping Cough.....	1
Convulsions.....	5	Congestion of Brain.....	2	Abscess.....	1
Apoplexy.....	5	Diphtheria.....	3	Cyanosis.....	1
Premature Birth.....	4	Dyspepsia.....	1	Alcoholism.....	1
Accident.....	5	Heart Disease.....	9	Jaundice.....	2
Gunshot Wound.....	3	Opium Poisoning.....	1	Meningitis.....	3
Typhoid Fever.....	2	Pneumonia.....	14	Asphyxia Neonatorum..	1
Inanition.....	2	Erysipelas.....	1	Inflammation of Bowels	4
Abscess of Lung.....	1	Scarlet Fever.....	3		

Of the above 5 were accidental; 3 were suicide; 10 were still born; 4 were premature births; 3 were unknown; 1 was old age; 14 were consumption originating outside of Montana.

The above table invites the closest scrutiny, as it makes a remarkable showing in favor of the healthfulness of the Montana climate, as compared with that of any other district in the United States. It is believed that this fairly represents the average "Mortality Rate" in Montana. The Medical Department of the great "Equitable Life Assurance Society" and other Life Insurance Societies have recognized the fact that, generally speaking, the "Life Expectancy" in this region is greater than the average elsewhere, and statistics are now in course of preparation which, it is believed, will still further modify their views in this regard by demonstrating the extremely low "Mortality Rate" here under given conditions.

The question at once arises: What are the conditions peculiar to this mountain region which makes possible such a remarkable showing as the above, especially when it is considered that a considerable proportion of our population is made up of those who have taken up their residence in Montana on account of their health, and the additional fact that large numbers of the population comprise those engaged in extra hazardous occupations; for example, miners for the precious metals, coal miners, placer miners, timbermen, etc. The question is answered briefly by the statement that we have a dry, bracing atmosphere, rich in ozone, comparatively free from organic matter and dust particles, together with that essential condition to healthful animal and vegetable life, "bright sunshine." Montanians are fond of quoting the well established fact that there is a yearly average of three hundred days of sunshine, with blue skies unexcelled, and an equable temperature, in the sense that sudden and unexpected extremes rarely

occur. It is true that during the twelve months there are variations in the temperature ranging from 80 degrees above zero to 10, or even 20 and more below zero, but these variations occur in season, and one may easily provide against them. There is never a period in midsummer so hot that one does not require during the night, for comfortable sleep, the covering of a blanket; while the coldest weather permits the grazing of large herds of cattle, horses and sheep in the valleys, foot hills and mountains, and the temperature never falls so low that with proper wraps one cannot ride for hours without discomfort.

The extreme dryness of the atmosphere accounts for the charm of this climate, both in summer and winter. This atmospheric condition, in an altitude like the average in Montana, is perhaps unequaled among natural causes in promoting a vigorous circulation and lung power, together with a reserve nerve force, all of which are essential to rugged health. The above needs no stronger illustration than the picture of physical health seen in the boys and girls, who claim nativity in this mountain region. This dry, rare atmospheric condition is an important factor in relation to disease, modifying almost every form of disease which occurs and making impossible the existence of others incident to less favored localities, and especially those due to the enervating climatic influences so common in many other sections.

It is universally conceded, by those in a position to know, that, generally speaking, surgical cases recover more rapidly and with fewer complications than in most other localities. Perhaps no better illustration of the potency of this condition can be made than that the carcass of an animal left in the open air, during the hottest days of summer, instead of undergoing the ordinary putrefactive changes incident to a humid climate, will dessicate or mummify almost without the existence of odor.

Consumption never develops in this climate, and incipient eases, under ordinary precautions, are almost invariably bettered if not permanently cured. Malaria is unknown. The average altitude in Montana is less than 3900 feet, which is sufficient to give tone to the physical system while not producing the unpleasant effects upon the heart and nervous system common in greater elevations. The statement has been made that the breathing capacity of a person under twenty years of age, coming from the middle states in a fair condition of health, is increased one-fourth to one-third during a five years' residence in Montana. The above fact has been recognized in a general way by horsemen, who have demonstrated that Montana bred horses are possessed in an unusual degree of those qualities termed "wind and bottom."

As a sanitarium Montana possesses natural advantages perhaps unequaled on this broad continent. Her forests of gum laden trees whose balsamic medicinal qualities infuse the air with their health giving virtues, together with an inexhaustible supply of mineral water issuing from the mountains, valleys and foot hills in the form of hot and cold springs, unequaled in their profusion, unexcelled in their therapeutic virtues, are calculated to make this sun-lit region a "Mecca" for those seeking health and home.

By Act of Congress, approved August, 1894, the United States agreed to donate to ten of the "arid" states, including Montana, 1,000,000 acres each of "desert" land, conditioned on the irrigation and reclamation of the same, and that at least 20 acres of each 160-acre tract shall be cultivated by actual settlers. The several

THE "CAREY ACT."

states have ten years in which to acquire title under the act, the United States agreeing to convey lands to them from time to time as the lands are properly acquired by reclamation and settlement. The State of Montana, by act of the Legislature, approved in February, 1895, accepted the donation under the Carey act, and the following Commission was appointed by the Governor, viz: J. T. Armington, Armington; James A. Talbot, Butte; Edward W. Beattie, Helena; Hal. S. Corbett, Missoula; A. L. Babcock, Billings. It organized by electing Mr. Beattie chairman, and Joseph C. Auld, of Glendive, secretary. The Commission has power to choose a State Engineer, to select lands, appropriate waters, build ditches and reservoirs, establish regulations, furnish information to settlers and proceed to secure titles.

HOW TO REACH MONTANA.

Montana is reached by three transcontinental Railroad Lines—the Northern Pacific, Union Pacific and Great Northern—two of which traverse the entire State, East and West, with numerous branch lines reaching almost every valley and town in the populous part of the State. The Chicago, Burlington and Quincy Railroad system has been completed to Billings connecting with the Northern Pacific system, while still other Railroads are in process of construction or being projected to reach hitherto unoccupied country. Generally speaking the State is easily accessible by rail, the train service and operation exceptionally good and safe. The roadbeds and rails are carefully maintained, and the most competent, careful and experienced conductors and engineers retained. There is rarely ever any detention in travel.

RATES TO MONTANA POINTS VIA UNION PACIFIC R. R.

From Sioux City, Council Bluffs, St. Joseph and Kansas City to Helena, Butte, Garrison and all points on the Union Pacific System south of these points: 1st Class limited, \$40.00; 2nd Class, limited, \$35.00.

From Chicago to the same Territory; 1st Class limited, \$46.50; 2nd Class limited, \$41.50.

From New York to same Territory; 1st Class limited from \$66.50 to \$62.50; 2nd Class limited from \$54.50 to \$60.50.

(The above variation depends on roads used east of Chicago.)

From San Francisco to Helena.....	1st Class	\$50.80;	2nd Class	\$45.80
" " Butte	"	48.60;	"	43.60
" " Great Falls	"	60.65;	"	47.90
" " Dillon	"	48.25;	"	43.25
" " Anaconda.....	"	48.60;	"	43.25
" " Deer Lodge and Garrison.....	"	48.25;	"	43.25

General Passenger Agent U. P. R. R. Co., E. L. Lomax, Omaha, Nebraska.

RATES TO MONTANA POINTS VIA NORTHERN PACIFIC R. R.

From St. Paul to Miles City.....	1st Class	\$28.55;	2nd Class	\$20.30
" " Billings.....	"	33.00;	"	26.00
" " Livingston.....	"	33.00;	"	26.00
" " Bozeman.....	"	33.00;	"	26.00
" " Garrison.....	"	35.00;	"	30.00
" " Missoula.....	"	37.50;	"	32.50
" " Helena	"	35.00;	"	30.00
" " Butte.....	"	35.00;	"	30.00

Chicago to above points \$11.50 additional to rates from St. Paul. New York to above points \$29.50 additional to rates from St. Paul 1st class, and \$27.50 second class.

From San Francisco to Missoula.....	1st class	\$53.25;	2nd Class	\$43.25
" " Butte.....	"	53.60;	"	43.60
" " Anaconda.....	"	53.70;	"	43.70
" " Helena.....	"	55.80;	"	45.80
" " Bozeman.....	"	60.70;	"	47.90
" " Great Falls.....	"	60.70;	"	47.90
" " Miles City.....	"	67.90;	"	47.90

Excursion rates from St. Paul to Montana points and return are subject to special announcement by the Company. Round trip tickets are sold from St. Paul to Montana points.

General Passenger Agent N. P. R. R. Co., Chas. S. Fee, St. Paul, Minn.

General Immigration Agent, N. P. R. R. Co., P. B. Groat, St. Paul, Minn.

RATES TO MONTANA POINTS VIA GREAT NORTHERN R. R.

From St. Paul to Glasgow	1st Class	\$29.25;	2nd Class	\$17.50
" " Havre.....	"	33.00;	"	21.00
" " Columbia Falls	"	37.50;	"	31.00
" " Kalispell.....	"	37.50;	"	31.00
" " Great Falls	"	33.00;	"	26.00
" " Helena.....	"	35.00;	"	30.00
" " Butte.....	"	35.00;	"	30.00
" " Anaconda.....	"	35.00;	"	30.00

From Chicago to above points \$11.50 in addition to rates from St. Paul. From New York to above points \$27.50 1st class and \$25.50 2nd class in addition to rates from St. Paul. Round trip tickets are sold from St. Paul to Montana points.

Rates are made from California to all Great Northern points.

General Passenger Agent G. N. R. R. Co., F. I. Whitney, St. Paul, Minn.

RATES TO MONTANA POINTS VIA "BURLINGTON" (B. & M.) R. R.

(Connections with N. P. R. R. at Billings.)

From Missouri River Points to	Billings	1st Class	\$38.00;	2nd Class	\$26.00
"	Livingston	"	38.00;	"	31.00
"	Bozeman	"	38.00;	"	31.00
"	Garrison	"	40.00;	"	35.00
"	Helena	"	40.00;	"	35.00
"	Butte	"	40.00;	"	35.00
"	Missoula	"	42.50;	"	37.50

Rates from Chicago are \$11.50 higher, and from St. Louis \$7.50 higher than the above rates from the Missouri River. Round trip rates are sold to Montana points during summer, being the same from the Missouri River points via Billings as from St. Paul on the N. P. R. R. Rates from New York via Billings are also the same as via the N. P. R. R.

General Passenger and Traffic Agent, J. Francis, Omaha, Neb.

RAILROAD INFORMATION. Persons desiring more specific information regarding starting points passenger fares, freight tariffs, land, etc., will be supplied with all information free of charge, by addressing a request to the General Passenger Agents of the several roads whose addresses are given above.

EMIGRANT MOVABLES. Especially favorable rates are made by all above named roads on west bound emigrant movables, consisting of second hand articles, properly forming the outfit for use of actual settlers, such as household goods, vehicles, agricultural implements, wagons, tools and machinery, grain for seed or feed of animals in transit, limited quantity of lumber or portable house, trees, shrubbery, live stock, etc. Above named Agents will furnish full information concerning same.

"STOP-OVER" PRIVILEGE. This Bureau has made all possible effort with the transcontinental railroad companies to obtain stop-over privileges on emigrant and second class tickets in Montana. They have been courteously but invariably refused. There is a very material difference in the cost of tickets from eastern terminals to Montana and to the Pacific coast. It is held by Railroad Companies that "if stop-over privileges are granted in any state east of Washington parties will buy through tickets from eastern terminals when desiring to visit those states and then sell the unused portion to scalpers thereby depriving the roads of the revenues to which they are justly entitled." The privilege is granted in Washington because there is little difference in the rates from eastern terminals to various points in Washington.

PRINCIPAL MAIN AND BRANCH RAILROADS IN STATE, AND MILES OF SAME IN EACH COUNTY, 1894.

SYSTEMS.	NORTHERN PACIFIC.							GREAT NORTHERN			U. P.				
COUNTIES.	Northern Pacific (Main Line)....	Logan and Butte Branch	Levee d'Alene Branch	National Park Branch	Bitter Root Branch	Red Lodge Branch	Boulder and Elkhorn Branch	Philipsburg Branch	Great Northern (Main Line)...	Montana Central	Neihart Branch.	Butte, Anaconda and Pacific	Utah and North- ern	Great Falls and Canada	Montana Union.
Beaverhead.....	..	..	..	..	..	..	..	..	34	44	43	..	78	19	..
Cascade .....	..	..	..	..	..	..	..	..	274	..	..	..	..	..	..
Choteau .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Custer	144	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dawson	63	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Deer Lodge	45	..	..	..	..	..	..	..	..	..	..	17	..	..	36
Fergus .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Flathead .....	..	..	..	..	..	..	..	..	197	..	..	..	..	..	..
Gallatin	57	20	..	..	..	..	..	..	..	..	..	..	..	..	..
Granite	28	..	..	..	..	..	..	33	..	..	..	..	..	..	..
Jefferson	22	41	..	..	..	..	51	..	..	57	..	..	..	..	..
Lewis and Clarke	30	..	..	..	..	..	..	..	..	58	..	..	..	..	..
Madison .....	..	..	..	..	..	..	..	..	..	..	13	..	16	..	..
Meagher	22	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Missoula	187	110	..	..	18	..	..	..	..	..	..	..	..	..	..
Park	48	..	..	51	..	7	..	..	..	..	..	..	..	..	..
Ravalli .....	..	..	..	..	34	..	..	..	..	..	..	..	..	..	..
Silver Bow .....	..	10	..	..	..	..	..	..	..	13	..	24	32	..	15
Teton .....	..	..	..	..	..	..	..	..	98	..	..	..	..	114	..
Valley .....	..	..	..	..	..	..	..	..	204	..	..	..	..	..	..
Yellowstone	137	..	..	..	..	38	..	..	..	..	..	..	..	..	..
Total	783	71	110	51	52	45	51	33	802	172	56	41	126	133	51

In the above the names by which the roads are commonly known are given, the corporate title being in some instances unfamiliar.

The total number of railroads in Montana in 1894 was 30; total mileage, 2,712; total assessed value, \$10,062,457.

HOW TO OBTAIN GOVERNMENT LAND.

HOMESTEADS.

Any person who is the head of a family, or who has arrived at the age of twenty-one years, and is a citizen of the United States, or has filed his declaration of intention to become such, and who is not the proprietor of more than 160 acres of land in any State or Territory, is entitled to enter one-quarter section (160 acres), or less quantity of unappropriated public land, under the homestead laws. The applicant must make affidavit that he is entitled to the privileges of the homestead act, and that the entry is made for his exclusive use and benefit, and for actual settlement and cultivation, and must pay the legal fee and that part of the commissions required, as follows: Fee for 160 acres, \$10; commission, \$4 to \$12; fee for 80 acres, \$5; commission, \$2 to \$6. Within six months from date of entry the settler must take up his residence upon the land, and reside thereupon and cultivate the same for five years continuously. At the expiration of this period, or within two years thereafter, proof of residence and cultivation must be established by four witnesses. The proof of settlement with the certificate of the Register of the land office is forwarded to the General Land Office at Washington, from which patent is issued. Final proof cannot be made until the expiration of five years from date of settlement, and must be made within seven years. The government recognizes no sale of a homestead claim. After the expiration of 14 months from date of entry the law allows the homesteader to secure title to the tract, if so desired, by paying for it in cash and making proof of settlement, residence and cultivation for that period. The law allows only one homestead privilege to any one person, but under act of March 2, 1889, section 2 provides in certain cases, when the first homestead was necessarily abandoned, that a second homestead may be made.

SOLDIERS' HOMESTEADS.

A soldier, having served in the army or navy during the War of the Rebellion for over 90 days, can obtain 160 acres of any of the public lands by filing (himself or by an attorney) a declaratory statement, and within six months thereafter filing his affidavit and application, commencing settlement and cultivation, and continuing the same five years, *less the time he served in the army or navy*—but, such time in no case to exceed four years. His widow can take advantage of the above. In case of his death in the army, or discharge therefrom on account of wounds or disability incurred in the line of duty, the term of his enlistment is deducted. In case of death of the soldier, his widow, if unmarried, or in case of her death or marriage, then his minor orphan children, by a guardian duly appointed and officially accredited at the Department of the Interior, shall be entitled to all the benefits given to soldiers under the homestead laws.

An unmarried woman, of age, can take the benefit of the homestead law. If she marries before she has acquired the title, and continues her residence on her claim, she can proceed to prove up at the proper time, the same as if she had remained single, but husband and wife cannot secure separate tracts by maintaining separate residence at the same time. All the sons and daughters of a family, who are of age, are entitled to take up land under the United States land laws.

The following act of Congress designates how one half section (320 acres) of arid land can be obtained:

UNDER THE DESERT LAND ACT.

Citizens of the United States, or persons who have declared their intention to become such, and who are also resident citizens of the State or Territory in which the land sought is situated, may file a declaration, under oath, with the Register and Receiver of the land district in which any desert land is situated, that he intends to reclaim a tract of desert land, not exceeding 320 acres, by conducting water upon the same, within four years. At the time of filing this declaration a fee of 25 cents for each acre of land proposed to be so reclaimed must be paid.

At the time of making the declaration the land taken up under this act must be particularly described, if surveyed, or, if unsurveyed, must be described as nearly as possible. The party shall also file a map of said land, which shall exhibit a plan showing the mode of contemplated irrigation, and which plan shall be sufficient to thoroughly irrigate and reclaim said land and prepare it to raise ordinary agricultural crops, and shall also show the source of the water to be used for irrigation and reclamation. At any time within four years, upon making satisfactory proof to the Register and Receiver of the reclamation of said land, and the expenditure thereon for improvements of \$1 an acre each year for three years, and proof of the cultivation of one-eighth of the land, and upon the payment of the additional sum of \$1 per acre, a patent shall be issued. A claimant must also file with the Register during each of said three years proof by the affidavits of two or more credible witnesses that he has made such expenditures. He may, however, prove up earlier whenever he can make the required proof of reclamation, cultivation and expenditure to the aggregate extent of \$3 per acre. All lands, exclusive of timber and mineral lands, which will not, without irrigation, produce some agricultural crop, are deemed desert lands. Residence on the land is not required.

UNDER TIMBER AND STONE ACT.

A citizen of the United States, or one who has declared his intention to become such, or association of such persons, can acquire not to exceed 160 acres; land must be chiefly valuable for timber or stone, containing no valuable deposits of gold, silver, copper, coal or cinnabar. Applicant is required to file sworn statement with Register and Receiver that he has made no prior application; to designate the tract required by legal subdivisions, setting forth its character as above, and that it is for applicant's own use and benefit. Such application will be published sixty (60) days when applicant files further proof of the character of the land, paying \$2.50 per acre therefor. Married women can purchase in Montana.

There are United States land offices at Miles City, Custer Co.; at Lewistown, Fergus Co.; at Bozeman, Gallatin Co.; at Helena, Lewis and Clarke Co., and at Missoula, Missoula Co. The homestead affidavits can be made before the Clerk of the District Court at any county seat, or before any United States Commissioner in the State, and the journey to the land office be thereby saved. There are land attorneys in every county. Every person contemplating taking up United States lands should procure a copy of "COPP'S SETTLERS' GUIDE." It costs 25 cents, and will be sent, postpaid, on receipt of that amount by "HENRY N. COPP, WASHINGTON, D. C."

"Storage," as applied to irrigating waters, means retaining them in their natural channels by dams, or diverting them into other receiving reservoirs when the streams are high, and retaining them there for use when the streams are low. Montana is exceedingly well adapted for both methods. Lakes at the head of many streams, canyons through which they flow, as well as "coulees," or dry ravines, and bowl like basins, furnish splendid opportunities for "storage," and in many localities the expense would not be great.

THE STORAGE SYSTEM.

The failure of the potato crop in some portions of the states east in 1894 led to the shipment of large quantities of potatoes from Montana to eastern markets in 1894 5. A writer in one of the Chicago market journals voiced public opinion in saying: "The best potatoes received in Chicago are those grown in Montana."

While irrigation fertilizes and maintains the productiveness of the soil, enabling continuous cultivation, the use of barn yard fertilizers greatly increases the yield of crops. Smaller cultivated areas and increased fertilization means larger crops to the acre, economizes water and enriches the husbandman.

The words "farm" and "ranche" are convertible. It is "farm" east and "ratche" in the Mountain and Pacific states.

VACANT PUBLIC LANDS IN MONTANA.

(From Report of Commissioner of General Land Office, 1894.)

Quantity of lands in the several Counties of Montana Land Districts not embraced in Indian, Military, Forest and other reservations appropriated and remaining unappropriated by filing or entry, June 30, 1894, and names of Land Officers, 1895.

LAND DISTRICT.	COUNTY.	AREA UNAPPROPRIATED AND UNRESERVED			Area Appropriated.
		Surveyed.	Unsurveyed.	Total.	
		Acres.	Acres.	Acres.	Acres.
Bozeman— C. P. Blakely, Register. John F. Asbury, Recv'r.	Gallatin.....	21,504	523,528	a 545,032	1,061,968
	Jefferson.....	56,560	80,000	b 136,560	134,440
	Madison.....	394,380	650,000	c 1,044,380	230,620
	Meagher.....	.....	4,000	d 4,000	.....
	Park.....	649,767	1,717,872	e 2,367,639	684,361
	Yellowstone.....	584,800	1,753,740	f 2,338,540	569,460
	Total.....	1,707,011	4,729,140	6,436,151	2,680,849
Helena— W. E. Cox, Register. Jeremiah Collins, Rec'r.	Beaverhead.....	378,000	1,602,670	g 1,980,670	225,530
	Cascade.....	892,870	347,260	1,240,130	470,350
	Choteau.....	1,842,580	7,250,700	h 9,093,280	249,470
	Dawson.....	.....	1,431,000	i 1,431,000	.....
	Deer Lodge.....	241,320	1,626,440	k 1,867,760	659,240
	Fergus.....	.....	28,000	l 28,000	.....
	Gallatin.....	5,760	46,480	a 52,240	5,760
	Granite.....	105,000	345,000	m 450,000	38,000
	Jefferson.....	188,300	746,822	b 935,122	197,878
	Lewis and Clarke.....	263,880	880,943	1,144,823	477,177
	Madison.....	352,370	982,180	c 1,334,550	256,900
	Meagher.....	380,800	1,813,160	d 2,193,960	530,200
	Park.....	13,700	38,640	e 52,340	15,660
	Ravalli.....	.....	46,000	n 46,000	.....
	Silver Bow.....	44,773	369,897	414,670	95,330
Lewistown— David Hilger, Register. John P. Barnes, Rec'r.	Teton.....	1,206,710	1,605,430	o 2,812,140	326,460
	Valley.....	546,430	5,923,000	6,469,430	36,470
	Total.....	6,462,493	25,083,622	31,546,115	3,584,425
Miles City— Jas. G. Ramsey, Register. Charles Wright, Rec'r.	Choteau.....	10,542	140,098	p 150,640	1,360
	Custer.....	31,900	199,200	h 231,100	4,900
	Dawson.....	227,260	456,500	i 683,760	16,840
	Fergus.....	2,668,940	2,415,440	l 4,814,340	662,060
	Meagher.....	392,400	51,000	d 443,400	315,400
	Park.....	22,400	9,000	e 31,400	44,600
	Yellowstone.....	144,900	153,200	f 298,178	199,830
	Total.....	3,498,412	3,154,398	6,652,818	1,244,990
Missoula— John M. Evans, Register. W. C. Murphy, Rec'r.	Custer.....	1,706,906	8,100,911	p 9,807,817	1,730,183
	Dawson.....	577,729	5,779,471	l 6,357,200	17,800
	Yellowstone.....	131,103	458,937	f 590,040	75,960
	Total.....	2,415,738	14,339,319	16,755,057	1,823,943
Total in Montana.....	Beaverhead.....	75,350	634,319	g 709,669	60,331
	Deer Lodge.....	5,803	83,240	k 89,043	14,957
	Flathead.....	288,119	4,632,746	4,920,865	474,802
	Granite.....	20,720	469,928	m 490,648	17,352
	Missoula.....	46,640	3,527,994	3,574,634	250,033
	Ravalli.....	75,540	1,514,775	n 1,590,315	213,685
	Total.....	512,172	10,863,002	11,375,174	1,031,160
Total in Montana.....		14,595,826	58,169,481	72,765,315	10,365,367

(At the Legislative Session of 1895 Carbon County was formed from portions of Park and Yellowstone Counties, and Sweet Grass Co., was formed from portions of Park, Yellowstone and Meagher Counties.)

- Total vacant land in Gallatin County (Bozeman and Helena Districts), 597,272 acres.
- Total vacant land in Jefferson County (Bozeman and Helena Districts), 1,071,682 acres.
- Total vacant land in Madison County (Bozeman and Helena Districts), 2,378,930 acres.
- Total vacant land in Meagher County (Bozeman, Helena and Lewistown Districts), 2,641,360 acres.
- Total vacant land in Park County (Bozeman, Helena and Lewistown Districts), 2,451,379 acres.
- Total vacant land in Yellowstone County (Bozeman, Lewistown and Miles City Districts), 3,226,758 acres.
- Total vacant land in Beaverhead County (Helena and Missoula Districts), 2,690,339 acres.
- Total vacant land in Choteau County (Helena and Lewistown Districts), 9,243,920 acres.
- Total vacant land in Dawson County (Helena, Lewistown and Miles City Districts), 8,471,960 acres.

- k. Total vacant land in Deer Lodge County (Helena and Missoula Districts), 1,956,803 acres.
 l. Total vacant land in Fergus County (Helena and Lewistown Districts), 4,842,340 acres.
 m. Total vacant land in Granite County (Helena and Missoula Districts), 940,648 acres.
 n. Total vacant land in Ravalli County (Helena and Missoula Districts), 1,636,315 acres.
 o. Total vacant land in Teton County (Helena and Missoula Districts), 2,812,140 acres.
 p. Total vacant land in Custer County (Lewistown and Miles City Districts), 10,088,917 acres.
 Total vacant lands in the State, 73,765,315 acres.

PRINCIPAL MINERAL INDUSTRIES OF MONTANA.

SOMETHING OF THEIR EARLIER DEVELOPMENT AND AGGREGATE PRODUCTIONS.

GOLD QUARTZ MINING.

While placer mining, the washing of gold from gravel, was the principal productive industry of Montana for many years, the discovery of gold, silver, copper and lead bearing veins of quartz was simultaneous with the beginning of placer mining. But the great cost of opening quartz mines, the expense, hazard and delay of shipping the necessary machinery by wagon from Omaha or Leavenworth, and the more inviting opportunities for quick and ample returns in placer mining long retarded general activity in quartz mining. Allen & Arnold are credited with reducing the first gold quartz in Montana, in a mill erected by them at Bannack, Beaverhead County, in 1862-3. It was "home made," the lumber and iron being obtained from dismantled wagons that had been brought "across the plains." It had six stamps, of 400 pounds each, and was successfully run by water on free ores from the "Monitor" lode. The first "clean-up" was made in October, 1864. The first steam quartz mill, 12 stamps, was built and operated at Summit, at the head of Alder Gulch, Madison County, by the Idaho Mining Company, commencing operations December 28th, 1865. Several gold quartz mills were erected in different localities soon after, but owing to inexperience and erroneous methods several years passed before gold quartz mining became a paying industry. Still it re-inforced and finally exceeded the placer production, and a very large proportion of the gold produced in the past twenty years has been from quartz. The least annual production of gold \$1,800,000 was in 1883, when the placers had been pretty well exhausted and quartz reduction was still limited. The great depression in silver the past two or three years has stimulated gold quartz and placer mining and the production has been materially increased. The following table from reports of Directors of the Mint, Census reports and other standard authorities gives the

GOLD PRODUCTION OF MONTANA FROM 1862 TO 1894.

Year.	Amount.	Year.	Amount.	Year.	Amount.
1862 to		1876	\$3,078,013	1886	\$4,442,000
1867	\$74,000,000	1877	3,200,000	1887	5,978,536
1868	15,000,000	1878	2,260,511	1888	4,200,253
1869	9,000,000	1879	2,500,000	1889	3,500,000
1870	9,100,000	1880	2,400,000	1890	3,300,000
1871	8,050,000	1881	2,330,000	1891	2,890,000
1872	6,068,000	1882	2,550,000	1892	2,891,386
1873	5,187,047	1883	1,800,000	1893	3,576,000
1874	3,844,732	1884	2,170,000	1894	3,651,410
1875	3,573,600	1885	3,400,000		
Total production of gold 1862 to 1894 inclusive					\$193,941,478

SILVER QUARTZ MINING.

Many silver bearing quartz lodes were located as early as 1862-3, but, owing to the same condition, as related to gold quartz and the expensive appliances necessary to convert the ores into bullion, they lay idle until 1867, when the St. Louis & Montana Gold and Silver Mining Co. with which S. T. Hauser, Philip Deidesheimer and Dr. Geo. C. Swallow were prominently identified, erected the first silver mill, 10 stamps, at what is now Philipsburg, Granite County, to work ores from Comanche hill, and it has been operated almost continuously since. The first smelter erected in Montana to treat silver ores was constructed by the St. Louis & Montana Mining Co., S. T. Hauser, President, at Argenta, Beaverhead County, in 1866, surface ores, in that vicinity being rich in lead-silver, but it was unsuccessful. In 1867, A. M. Esler erected two blast furnaces and one refining furnace at Argenta, producing about two tons of fine silver, but the mines depended on for ores turned so poor in lead that smelting, as

then done, could not profitably be applied to the ores. This enterprise was also discontinued, and, although other silver mills and smelters were built and operated, it was not until 1876, that the silver production of Montana was taken into account by the Director of the Mint. The production of 1876 was placed at \$1,132,976. The annual production did not reach \$2,000,000 until 1879, after which it increased with majestic strides until in 1892 the product was \$22,432,323, one eighth the production of the entire world in that year. In 1893, owing to the depression in price and the closing of many mines after July 1st, the production decreased to \$21,858,780, but it was still immensely larger than that of any state except Colorado, and two-sevenths of the entire product of the United States. Following from latest revised official U. S. reports shows the

SILVER PRODUCTION OF MONTANA FROM 1876 TO 1894.

Year.	Amount.	Year.	Amount.	Year.	Amount.
1876	\$1,132,976	1883	\$6,000,000	1890	\$20,363,636
1887	750,000	1884	7,000,000	1891	20,139,394
1878	1,669,635	1885	11,500,000	1892	22,432,323
1879	2,225,000	1886	13,849,000	1893	21,858,780
1880	2,500,000	1887	17,817,548	1894	16,575,458
1881	2,630,000	1888	15,790,736		
1882	4,370,000	1889	19,393,939		
Total production of silver 1876 to 1894 inclusive.....					\$207,998,425

COPPER MINING.

It may never hereafter be known who first discovered copper quartz in Montana. In May, 1864, G. O. Humphreys and William Allison came to the vicinity of what is now Butte, and prospected for placer gold. There was no one there nor any signs of any having preceded them as prospectors, except that on what is now known as the "Original" lode they found a hole four or five feet deep on an outcrop of quartz and near by were some old elk horns which had evidently been used as "gads" in making the excavation. The indications were the hole had been dug years before. They took some of the ore from it to Virginia City and smelted copper therefrom. Later in 1864, Charles Murphy, Major William Graham and Frank Madison located the "Deer Lodge" (since "Black Chief") lode below Butte, and the following winter, when placer mining was suspended, many quartz locations of copper and silver were made, the immense surface croppings being of a character to attract attention, but it was years before the copper ores could be made available, they being very difficult of treatment and profitable handling in those days of wagon transportation and no railroads. As early as 1867 Col. A. K. McClure who had been making a tour of the Montana mining camps in the Sanders-Cavanaugh political campaign, said to the writer on his return to Virginia City, "Yon Montana people are overlooking the greatest mineral resource of the territory; I believe there is more copper at Butte than there is at Lake Superior."

Joseph Ramsdell and William J. Parks began at Butte, August 14th, 1866, the first practical development of copper property by sinking on the Parrot lode. October 1st, of the same year they began erecting a stack furnace with fan blowers in a gulch east of the town, then consisting of a few primitive structures on or near Main street, completed it January 15th, 1867, and ran out 7,500 pounds of black copper which was shipped to Charles Hendry's foundry at Helena for further treatment.

The first official reference to copper is by R. W. Raymond U. S. Commissioner of Mining Statistics in his report for 1870, wherein he states "some very valuable copper mines have been discovered in the Butte district and pretty thoroughly prospected. Among the most prominent are the Original, Parrot-Gray Eagle, Mountain Chief, etc. A shaft has been sunk 75 feet on the Original developing a three foot vein. A smelting furnace, consisting of a stack with fan furnace, etc., was erected to work copper from these lodes. Five tons of black copper matte were run and shipped east for refining. The proprietors state that at present prices of fuel, labor, etc., they can produce black copper at \$40 per ton." The report of 1873 makes considerable mention of the development and extensive character of the copper mines at Butte, but in 1874 and 1875 they were very briefly mentioned, development having been small during these years, and operations discontinued at the furnace.

In 1874 A. M. Esler erected a reverberatory copper matting furnace at Wunderlich's (now "Divide" Silver Bow Co.) and contracted with Wm. J. Parks to furnish him with the product of his Parrot copper mine. The ores ranged from 40 to 42 per cent copper. This was enriched with gold and silver dry ores from Trapper, Highland and other districts, and a considerable quantity of fine copper matte was produced. The enterprise was finally abandoned because proper fire brick could not be obtained. The report of the Mining Commissioner for 1876 states: "From the Newlon copper mine at Copperopolis in Meagher County, Benjamin C. Kingsbury shipped during the season forty tons of ore to Baltimore which gave thirty three and one-third per cent copper and netted him after paying expenses about \$25 per ton."

In 1880 Lewishon Brothers of New York erected and began operating in Butte, the Montana Copper Company smelter, with Saly Raunheim, Manager, and the production of copper began on extensive scale.

This is briefly sketched some of the earlier developments of the copper industry in Montana which of later years has led the production of all the States, surpassing in 1894 by 34,000 tons the entire product of the far famed mines of Michigan. Montana produces one-half the copper product of the United States and one-fourth the entire product of the world.

While copper mines have been found in other counties, and will doubtless eventually be large producers, almost the entire product so far has been from the mines at Butte, Silver Bow County, and over one half of it is treated by the Anaconda Company, at Anaconda, Deer Lodge County, where it has the largest producing copper works in the world, and refines much of the product. The great smelting and electrolytic refining works of the Boston & Montana, the Butte & Boston, the Parrot Company, the Colorado Smelting & Mining Co. the Butte Reduction Works, and others located at Great Falls, Cascade County, and Butte, Silver Bow County treated nearly all the other ores. Nearly all the copper ores of Montana carry a large by-product of silver or gold, or both. It is an interesting fact that the gold, silver and copper product of Montana to the present date has more than twenty times repaid the cost of the Louisiana purchase and, with more than five hundred and fifty million dollars to its credit as a producer of the precious and semi-precious metals, by a population that until 1891 did not reach an average of one person to each square mile of its area, it is now only in the early vigor of its productiveness of those metals. The following from the revised reports of the Director of the Mint to 1892, and for 1893 and 1894 from the Engineering and Mining Journal shows the Montana product of copper for years named, and estimated value. The product has only been reported by companies since 1885.

COPPER PRODUCTION OF MONTANA AND VALUES, 1882 TO 1894.

YEARS.	PRODUCT.		VALUE.	
	Pounds of Fine Copper.	Tons.	Av. New York Price for "Lake."	Est. Value of Montana Product.
1882	9,058,284	4,529	18.5 cts.	\$1,539,860
1883	24,664,346	12,332	15.875 "	3,452,960
1884	43,093,054	21,546	18.875 "	5,386,500

	1885	1886	1887	1888	1889
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Anaconda.....	36,000,000	33,267,864	57,000,000	63,245,473	61,647,000
Boston and Montana.....	7,500,000	2,000,000	1,500,000	18,278,667	26,425,228
Clark's Colusa.....	10,000,000	7,000,000	7,100,000	700,000	
Butte and Boston.....					1,103,125
Butte Reduction Works.....	2,501,000	1,700,000	1,565,000	3,521,556	2,560,000
Colorado Smelting and Min'g Co.....	1,300,000	2,000,000	1,500,000	1,488,000	2,954,000
Parrot.....	9,809,000	10,000,000	10,000,000	10,750,000	9,500,000
All Others.....	789,000	1,644,136	35,000	521,304	399,647
Total lbs. Fine Copper.....	67,798,000	57,612,000	78,700,000	98,505,000	104,589,000
Tons, 2,000 lbs. each.....	33,899	28,806	39,350	49,252	52,294
Av. N. Y. Price for Lake.....	11.125c	11c	11.25c	16.67c	13.75c
Est. Value of Montana Product..	\$6,779,800	\$5,761,200	\$8,853,750	\$15,103,946	\$13,334,970

	1890	1891	1892	1893	*1894
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Anaconda.....	64,046,812	46,500,000	100,000,000	75,256,657	95,578,000
Boston and Montana.....	26,942,288	26,507,929	30,386,595	31,000,000	
Butte and Boston.....	5,485,494	18,392,054	10,641,269	20,457,928	57,937,633
Butte Reduction Works.....	3,001,209	2,915,000	2,864,000	2,985,485	2,282,000
Colorado Smelting and Min'g Co.....	2,320,000	3,641,384	4,560,972	6,703,488	5,188,730
Parrot.....				77,565	362,397
Montana Ore Purchasing Co. and All Others.....	9,000,000	14,108,382	12,438,782	7,791,167	7,469,905
Total lbs. Fine Copper.....	110,996,000	113,200,000	164,300,000	154,706,589	183,094,755
Tons, 2,000 lbs. each.....	55,498	56,600	82,150	77,353	91,547
Av. N. Y. Price for Lake.....	15.75c	12.85c	11.50c	10.75c	9.49c
Est. Value of Montana Product..	\$16,656,437	\$14,377,336	\$19,105,464	\$16,630,958	\$17,375,692

* Estimate of Engineering and Mining Journal.

LEAD PRODUCTION.

Lead ores, principally galena, abound in the State, and always carry silver in greater or less quantities. None of these ores have been mined exclusively for lead—in fact, for a time, owing to the expense of transportation, it was thrown aside, but they were reduced primarily for the gold and silver they contain and for smelting dry ores. Much of the ore shipped in from Idaho for reduction contains a large percentage of lead, and the lead product of Montana was for a number of years combined with that of Idaho in official reports. No statistics of the lead product preceding 1883 are obtainable. Since 1889 the United States Assay Office in Helena has made annual estimate of the amount and value of the Montana output. Taking these figures and the percentages of Montana lead with the annual average New York price of lead as a basis the value has been estimated as follows:

PRODUCTION AND VALUE OF MONTANA LEAD ORES.

Years.	Tons, 2,000 lbs.	Est. Value.	Years.	Tons, 2,000 lbs.	Est. Value.
1883	3,410 a	\$226,424	1890	7,582 c	\$675,392
1884	4,495 a	246,326	1891	14,126 c	1,229,027
1885	4,650 a	274,350	1892	12,852 c	990,035
1886	6,820 a	494,132	1893	13,353 c	964,089
1887	8,370 a	607,662	1894	11,783 c	730,552
1888	9,300 a	569,160	Total	106,924	\$7,464,124
1889	10,183 b	456,975			

a. Estimated value. b. Eleventh census. c. United States Assay Office report.

PRODUCTION OF GOLD AND SILVER IN MONTANA DURING CALENDAR YEAR
1894.—SUMMARY BY COUNTIES.

(As Reported by U. S. Assay Office, Helena, to Director of the Mint.)

COUNTIES.	GOLD.		SILVER.	
	Fine Ounces.	Value.	Fine Ounces.	Coinage Value.
Beaverhead.....	2,572.082	\$53,169.65	836,545.17	\$1,081,593.75
Cascade.....	61.383	1,268.90	2.75	3.55
Choteau.....	206.323	4,265.07	18.62	24.07
Deer Lodge.....	28,167.950	582,283.20	36,394.36	47,054.86
Fergus.....	3,770.880	77,950.90	349.85	452.32
Granite.....	9,528.835	196,980.57	469,162.12	606,593.44
Jefferson.....	8,111.464	167,678.84	765,483.04	989,715.44
Lewis and Clarke.....	46,844.379	968,359.25	1,007,025.02	1,302,012.14
Madison.....	8,733.388	180,535.15	87,854.42	113,589.54
Meagher.....	3,995.542	82,595.18	1,212,890.53	1,568,181.69
Missoula.....	3,895.361	80,524.25	286,842.50	370,867.07
Park.....	1,747.440	36,122.79	196.98	254.68
Silver Bow.....	36,768.015	760,062.33	7,561,124.46	9,775,999.30
Custom Smelters, Mints and Assay Offices, not Elsewhere Enumerated..	32,732.111	676,632.79	1,375,077.47	1,777,877.93
Total Production	187,135.253	\$3,868,428.87	13,638,967.29	\$17,634,219.78

PRODUCTION OF COPPER AND LEAD IN MONTANA FOR THE CALENDAR
YEAR 1894.

SUMMARY BY COUNTIES.	Copper, pounds.	Lead, pounds.
Beaverhead.....	362,897	3,110,070
Jefferson.....	30,000	443,311
Lewis and Clarke.....	.....	6,952,304
Meagher.....	.....	98,094
Missoula.....	.....	2,663,720
Silver Bow.....	185,194,385	50,227
Custom Smelters, not Included in above	723,190	10,243,462
	186,310,472	23,566,188

There are electric light and street railway systems in all the cities and many of the principal towns of the State.

TOTAL PRODUCTION OF MONTANA DURING CALENDAR YEAR 1894.

METALS.	Quantity.	Value.
Gold, fine ounces.....	187,135.	\$2,868,428.87
Silver, fine ounces.....	13,638,967.	17,634,219.78
Copper, pounds at 9 cents.....	186,810,472.	17,233,718.66
Lead, pounds, at 3.10.....	23,566,188.	730,551.82
		\$39,466,919.13

(NOTE.—The revision of the above report by the Director of the Mint as relates to the product of gold and silver makes some variation of amounts and values as carried into the general tables of production.)

GOLD, SILVER, COPPER AND LEAD PRODUCTIONS OF MONTANA FROM
1862 TO 1894, INCLUSIVE.

Years.	Gold.	Silver.*	Copper.	Lead.	Total.
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
1862 to	74,000,000				74,000,000
1867	15,000,000				15,000,000
1868	9,000,000				9,000,000
1869	9,100,000				9,100,000
1870	8,050,000				8,050,000
1871	6,068,000				6,068,000
1872	5,187,047				5,187,047
1873	3,844,732				3,844,732
1874	3,573,600				3,573,600
1875	3,078,013	1,132,976			4,210,989
1876	3,200,000	750,000			3,950,000
1877	2,260,511	1,669,635			3,930,146
1878	2,500,000	2,325,000			4,725,000
1879	2,400,000	2,500,000			4,900,000
1880	2,380,000	2,630,000			4,960,000
1881	2,550,000	4,370,000	1,539,860		8,459,860
1882	1,800,000	6,000,000	3,452,960	226,424	11,479,384
1883	2,170,000	7,000,000	5,386,500	246,326	14,802,826
1884	3,400,000	11,500,000	6,779,800	274,350	21,954,150
1885	4,422,000	13,849,000	5,761,200	494,132	24,526,332
1886	5,978,536	17,817,548	8,853,750	607,662	33,257,496
1887	4,200,253	15,790,736	15,103,946	569,160	35,664,095
1888	3,500,000	19,393,939	13,334,970	456,975	36,685,884
1889	3,300,000	20,263,636	16,656,437	675,392	40,995,465
1890	2,890,000	20,139,294	14,377,336	1,329,027	38,635,757
1891	2,891,386	22,432,323	19,105,464	990,035	45,419,208
1892	3,576,000	21,858,760	16,630,958	964,089	43,029,827
1893	3,651,410	16,575,458	17,233,718	730,551	38,191,137
1894	193,941,478	207,998,425	144,216,899	7,464,123	553,620,925

* Silver is computed at coining value, \$1.29 per ounce.

COAL.

It is variously estimated that from 50,000 to 60,000 square miles of Montana is underlaid with bituminous or lignite coals of good quality. Many of the veins are very large. The coal generally contains a high per centage of fixed carbon and burns without clinkers. The greatest bodies are fuel coals, but many are coking coals and large quantities of excellent coke are produced. Although coal mining only began to develop as a general industry in 1889, the Montana coals have rapidly displaced the best imported coals and some of the most promising fields of the State await the approach of railroads. The largest producing mines so far are at Red Lodge, in Carbon County; in Sand Coulee and Belt, in Cascade County; Timberline and Trail Creek, in Gallatin County and Cokedale and Horr, in Park County; but many others are being worked. It is known there are extensive coal measures in at least nineteen of the twenty three counties of the State, viz:—Carbon, Cascade, Choteau, Custer, Dawson, Deer Lodge, Fergus, Flathead, Gallatin, Granite, Lewis and Clarke, Madison, Meagher, Missoula, Park, Ravalli, Teton, Valley and Yellowstone. It is not possible to give here details as to coal measures of the State, even so far as they have been developed or explored, but the supply of coal is abundant for all domestic, manufacturing or power purposes, and it underlies so great a portion of the State that its transportation is minimized. In the year ended June 30th, 1894, seven companies had \$2,727,200 invested in coal plants, employed 1,250 persons and produced 732,666 tons of coal valued at \$1,604,856. Besides this about 30,000 tons of Coke are produced annually.

The following figures are taken from the best authorities:

PRODUCTION OF COAL AND COKE IN MONTANA.

Years.	Coal. Tons 2,000 lbs.	Coke. Tons 2,000 lbs.	Value of Coal at Mine.
1883.....	19,695	.....	\$68,932
1884.....	80,376	.....	281,816
1885.....	86,440	.....	302,540
1886.....	49,846	.....	174,460
1887.....	10,202	.....	35,707
1888.....	41,467	12,000	145,135
1889.....	363,301	30,576	880,773
1890.....	517,477	24,000	1,252,492
1891.....	541,861	25,525	1,388,630
1892.....	648,701	30,000	1,312,811
1893.....	783,300	35,000	1,660,596
1894.....	e 800,000	e 36,000	1,700,000
Total	3,942,666	196,101	\$9,133,392

e, estimated.

ONE OF THE UNDEVELOPED RESOURCES.

IRON ORES OF MONTANA.

Owing to little prospect of immediate use the iron ores of Montana have not been carefully noted or explored. Some day their mining and treatment will doubtless be a very important industry. Dr. George C. Swallow, M. E., who has written the best brief review of their location and character says:

'Brown hematite is a very abundant ore of iron, has been in great demand and is used in large quantities in our furnaces for a flux in reducing gold and silver ores. Fortunately our State has a vast supply of this ore, all of which carries more or less gold, making it so much more valuable as a flux. A very large number of the veins of gold and silver are capped with this ore, while it forms the gangue of a great many others. This ore is worked in the most of our mills, and in all our furnaces, for reducing gold and silver ores.

Iron pyrites is an abundant ore and forms the gangue in the larger portion of our gold mines below permanent water. It has been changed to brown hematite where exposed to atmospheric influences.

Red hematite is the principal ore upon which we will have to depend for the manufacture of iron in Montana. It has been the chosen ore of our manufacturers and is the ore of the best iron mines of America. This is the ore of Pilot Knob and Iron Mountain in Missouri, and of the famous iron deposits of Lake Superior. This ore is found in the Sweet Grass Hills, the Little Rockies and Bear Paw Mountains. Its extent there is yet to be determined but the quality is good as shown by the specimens.

In the Little Belt Mountains are found very extensive croppings of hematite ores. It is found in places, and sometimes for many thousand feet, in continuous croppings, from Dry Wolf to Barker. It is also found in the mountains north of Maiden. There are four extended exposures. The first extends from Riceville across Logging Creek, Surprise Creek and Tillinghouse Creek; the second is on the east side of the Park, near the railroad at Monarch and south across Carpenter Creek; the third from Barker towards Neihart, and the fourth across the mountains at Wolf Creek and Yogo.

A large deposit of specular ore is in Red Mountain in Silver Bow County. There are extensive croppings of this ore, showing a strong vein, extending for miles in Fairview district in Jefferson County.

Magnetic iron is found in many localities in the State and often in connection with specular ore. These ores are found together in all the localities in the whole length of the Little Belt and in several places in the Judith Mountains. It also occurs on Henderson Mountain with specular ores and in the mountains above Cooke City.

Black band iron ore appears in an extensive vein, cutting the Bear Creek coal field for miles. The vein is very near perpendicular and from five to twenty feet thick. This is the ore so famous in Wales.

Spathic iron ore has been observed in workable quantities in Montana. It often occurs in regular strata in the coal bearing rocks, and sometimes in concretions in the shales of these rocks. A regular stratum of this ore crops out in the bluffs of Belt Creek, 75 feet below the great coal bed above Belt city. This bed carries 20 inches of good ore. There are three successive beds of spathic ore in the hills on both sides of Elk Creek, a tributary of Sun River. Another bed, south of Hogan, can be traced through the *mammals-de-fer* and for some distance over the ridges to the south. These beds of spathic ore are parallel to and appear to form regular strata in the coal bearing rocks.

Bog ores are found in considerable beds as limonite. In many of the valleys and ravines in the mining districts of the State are beds of limonite which were formed in the bye-gone age, when these

valleys were filled with water, as bog ore. The waters charged with carbonic acid coming down from the mountain sides, over and through the iron caps and gangue of the many mineral veins, necessarily came charged with iron which, in the lapse of ages, formed these beds.

These ores contain small quantities of gold, which makes them so much more valuable for fluxes, but the most of them will be the most valuable for the manufacture of iron."

PRECIOUS STONES.

Ever since placer mining began in Montana gems have been found in the gravel mines. As early as 1865 a very rich deposit of garnet or carbuncles was found in a lead in Alder Gulch, near Virginia City, and a considerable quantity taken out, cut and mounted; but mining on the vein was suspended, and the vein caved and it is believed has never been reopened. More than twenty-five years ago a large number of sapphires, garnets and rubies were found on American and El Dorado bars of the Missouri river near Helena, and attracted considerable local attention. Few, however, appreciated their merits, and as placers ceased to pay in gold, work was practically abandoned on them and it was not until some eight or ten years ago that the mining of these gems for profit was undertaken. Mr. Edwin W. Streeter, of London, one of the most eminent authorities on gems and gem fields in the world, experted the gem fields of El Dorado Bar in 1891, and speaking of the quality of the stones, reported: "These stones have a wide range of color, and I note frequent occurrence of this, hitherto rarely obtainable in this valuable gem. I unhesitatingly say of these different colored sapphires and rubies, that in hardness and brilliancy they exceed any others known to the trade, and many of them are more brilliant by artificial light than by daylight which increases their value for jewelry. Excepting only the South American diamond fields I consider the sapphire and ruby mines of Montana to be the most important gem discovery of modern times." Other authorities confirm this statement and the Montana stones have become a standard and fashionable gem in the leading markets of the world. Several companies have been formed and large investments made for the purpose of mining these stones and large quantities have been produced. They are found in several places in the State. It seems not improbable the industry will develop into prominence.

AGRICULTURAL AND GRAZING INDUSTRIES.

STATISTICS RELATING TO PRODUCTIONS, WAGES, MARKET PRICES AND THE DEMAND FOR FARM PRODUCTS.

Inspired by Hope, man ever pursues with greatest ardor the path which apparently leads to quickest wealth and the search for the hidden treasures in the form of precious metals has ever been one of the great activities of human effort. The desest sands, the unexplored and almost impenetrable mountains and savage foes have alike been feeble barriers in the onward march of the hardy pioneers of the Rocky Mountain region in quest of gold. But while their search in Montana has been rewarded with success, while gold, silver, copper and gems have been yielded bounteously from her stores and she has iron, lead, coal, granite, porphyry, marble, jasper and sandstone of the finest quality, and in quantity ample for an empire, her great enduring wealth is in the fertile millions of acres of grazing and agricultural lands that now grow "beef" instead of "buffalo" and respond to the touch of industry with harvests that rival the richest so called "garden spots" of either hemisphere.

Cultivation of the soil, in a primitive way, began in Montana before gold was discovered. The wonderful productiveness of the soil in cereal and root crops, and the marvelous grazing qualities of Montana grasses was at once demonstrated, and these industries have since expanded, despite the allurements of mining, until even the most skeptical now see that not only are the farming lands of the State unsurpassed in productiveness, but as a remunerative and permanent resource Agriculture has a prominent place and Montana's greatest prosperity depends largely on its development.

Montana has in round numbers, as estimated by the U. S. Bureau of Agriculture, 30,000,000 acres of land capable of cultivation. In 1893, however, only 1,500,495 acres were under fence and the average number of acres to each farm was 283. In 1894 the total number of acres assessed was 6,523,346. In 1889 a special committee of the U. S. Senate made an exhaustive examination relating to irrigation and reclamation of arid lands. One of the conclusions was that

in the arid regions small farms are more profitable to the owners than large ones, or a small one cultivated is more profitable than a larger one with a portion remaining idle. The opinion, based on the evidence of many credible and intelligent witnesses, was that 40 to 80 acres was ample for an ordinary family, and preferable to a larger area. Taking the estimate of the U. S. Bureau of Agriculture as a basis, and allowing 100 acres to each family, Montana has a cultivable area of 300,000 farms. According to the Eleventh Census Reports the average number of persons to a family in Montana is 4.81. These figures show Montana has sufficient land capable of cultivation to support one and a half million of rural population. As, however, a very large proportion of the agricultural lands in the State require irrigation for successful cultivation the fact should be borne in mind that the area of practically cultivable land is to that extent limited by the water available for irrigating. The area of these lands is being gradually and continually increased. Aside from the fact that there are lands in some counties which do not require irrigation there are yet in some other counties easily diverted waters remaining unappropriated. Irrigating canals have been or are being built by capitalists in other places to cover hitherto arid lands and under the provisions of the Carey Act the State has authorized the reclamation of 1,000,000 acres of arid lands which will be available for settlers on favorable terms.

The general staple products of Montana are about the same varieties as those of many other northern states of the Union, and of France, Germany, Austria and Russia, namely, wheat, oats, barley, rye, potatoes and all other root crops. The quality and yield of these is rarely equalled and not excelled in the world. Montana received ten awards on agricultural products at the Columbian World's Fair in 1893—two on wheat, two on barley, one on oats, two on timothy and one on blue joint. Analysis of Montana wheat, at the Agricultural Experiment Station, Bozeman, in March, 1894, demonstrated it was fully equal to the best Minnesota and Dakota grain in all respects. The comparative productive capacity of Montana, per acre, as compared with that of the entire United States as shown by the U. S. Statistical Tables for the United States, and by the assessors statistical reports for Montana, for the year 1892, is as follows:

	Montana.	United States.
Wheat, average number bushels per acre	25.91	13.4
Oats " " " "	38.84	24.4
Barley " " " "	34.14	19.4
Rye " " " "	29.16	13.0
Potatoes " " " "	160.48	70.3
Cabbages " " pounds "	8,576	...
Rutabagas " " " "	10,191	...
Turnips " " " "	7,702	...
Onions " " " "	7,282	...
Hay " " tons "	1.31	1.32

(Potatoes and hay are given for 1893 for the United States.)

It will be observed these averages are for the entire State. Many individual farms produce much greater averages, but it is the purpose in this pamphlet to present general conditions and avoid all extremes or misleading exhibits.

A comparative exhibit of farm wages, farm products and market prices paid in Montana to farmers is shown in the following tables. The latest available figures are used. It is doubtful if any other state in the Union can show such favorable conditions to farmers—especially those who know the value of a "little farm well tilled," and accept the homely truism that

"He who by the plough would thrive
Himself must either hold or drive."

Considering the fertility of the soil, Montana is remarkably free from noxious and rank growing weeds. This is advantageous in many respects and would be especially so in the cultivation of sugar beets, the weeding of which is necessary and in some places constitutes a large item of expense.

AVERAGE YIELD OF FARMS PER ACRE, AND AVERAGE WAGES.

STATES AND TERRITORIES.	Year.	Monthly Wages.	Bushels Wheat.	Bushels Rye.	Bushels Oats.	Bushels Barley.	Bushels Corn.	Bushels Potatoes.
Montana a.....	1892	\$ 35 30 b	25.9	29.2	38.8	34.1	36.0	168.0
Maine.....	1891	17 50	15.0	16.0	34.6	26.5	98.0	92.0
New Hampshire.....	"	17 60	15.5	16.2	35.0	26.3	98.0	97.0
Vermont.....	"	17 35	16.5	16.1	37.5	27.3	99.0	97.0
Massachusetts.....	"	18 50	16.7	15.3	33.0	26.7	99.0	97.0
Rhode Island.....	"	18 00	.....	16.5	31.5	28.0	99.0	96.0
Connecticut.....	"	17 33	17.0	14.3	30.0	23.5	99.0	92.0
New York.....	"	16 65	16.6	15.0	31.5	23.3	95.0	86.0
New Jersey.....	"	16 00	15.3	14.3	29.3	23.6	98.0	98.0
Pennsylvania.....	"	14 60	15.6	14.8	27.2	22.5	98.0	86.0
Delaware.....	"	11 15	12.8	8.5	20.3	.....	98.0	95.0
Maryland.....	"	11 25	13.5	12.2	19.5	.....	97.0	92.0
Virginia.....	"	9 47	9.0	8.2	10.7	16.7	97.0	93.0
North Carolina.....	"	8 80	6.8	7.0	9.5	.....	94.0	83.0
South Carolina.....	"	8 62	5.5	6.0	10.6	.....	97.0	94.0
Georgia.....	"	8 37	7.5	7 6	11.7	.....	99.0	97.0
Florida.....	"	12 59	.....	.....	11.4	.....	92.0	83.0
Alabama.....	"	9 85	8.0	7.5	12.8	.....	95.0	90.0
Mississippi.....	"	10 50	7.8	7.0	11.5	.....	96.0	86.0
Louisiana.....	"	11 79	.....	.....	11.3	.....	92.0	85.0
Texas.....	"	13 30	12.0	11.2	24.5	15.2	91.0	83.0
Arkansas.....	"	12 55	9.6	9.3	16.5	.....	99.0	90.0
Tennessee.....	"	10 12	9.7	8.7	14.4	12.7	97.0	83.0
West Virginia.....	"	12 95	10.3	10.5	17.3	.....	97.0	94.0
Kentucky.....	"	11 70	12.7	10.3	18.5	24.5	98.0	94.0
Ohio.....	"	15 10	17.1	15.5	32.3	25.7	97.0	96.0
Michigan.....	"	16 75	17.6	15.0	32.5	24.5	85.0	87.0
Indiana.....	"	14 78	17.7	17.2	26.0	23.5	94.0	90.0
Illinois.....	"	16 35	17.8	17.5	34.0	26.0	92.0	90.0
Wisconsin.....	"	16 75	13.5	14.6	36.3	26.5	74.0	91.0
Minnesota.....	"	16 60	17.6	17.2	37.5	27.3	84.0	94.0
Iowa.....	"	17 00	15.3	17.0	39.2	27.3	95.0	95.0
Missouri.....	"	14 00	13.2	13.5	25.3	.....	86.0	94.0
Kansas.....	"	15 05	15.5	14.3	33.2	26.5	83.0	88.0
Nebraska.....	"	16 60	15.0	15.7	32.3	27.2	93.0	97.0
California.....	"	22 00	11.7	16.5	28.5	23.7	91.0	97.0
Oregon.....	"	22 00	17.5	13.8	30.5	24.0	97.0	98.0
Nevada.....	"	23 00	17.0	.....	.....	23.5	.....	.....
Colorado.....	"	25 00	20.2	20.6	33.6	26.5	94.0	89.0
Arizona.....	"	.....	.....	.....	.....	25.0	.....	.....
North Dakota.....	"	.....	17.8	17.5	33.5	30.0	70.0	98.0
South Dakota.....	"	.....	15.5	15.3	32.3	28.5	80.0	93.0
Idaho.....	"	.....	20.0	.....	31.5	29.0	.....	99.0
New Mexico.....	"	.....	12.5	.....	22.0	22.0	85.0	90.0
Utah.....	"	.....	17.5	16.8	28.7	26.7	95.0	97.0
Washington.....	"	.....	18.0	14.3	35.0	31.5	90.0	97.0

a. In this table the statistics relating to Montana are as reported by Assessors for 1892. The statistics relating to other States and Territories are as prepared by the National Department of Agriculture for 1891.

b. Wages of farm hands in Montana had declined to an average of \$29.70 per month in 1894. With these wages are included board and lodging.

PRINCIPAL AGRICULTURAL PRODUCTIONS OF MONTANA, 1873 TO 1892.*

(Compiled and Averaged from County Assessors' Reports to Territorial or State Auditors.)

Exceptional crops in favored localities are sometimes quoted as illustrating the crop producing capabilities of counties or states. It seems, however, that the total acreage sown or planted in the crops of principal production for a long series of years over the entire area considered, and the product of all these acres for the same period, is the correct standard by which to determine its crop producing capacities. That establishes the general average which can be depended upon, and that is what the intending settler desires to know. The figures here presented show the principal agricultural productions of all Montana, by years, from 1873 to 1892. They are from the official reports of Assessors, collected annually, and are the State records relating to crop productions. Space does not permit the presentation by counties, but the variation in the several counties is not great, except that corn is not raised in the higher valleys.

Year.....	WHEAT.			RYE.			BARLEY.			CORN.		
	No. of Acres.	Pro-duction.	Av. per Acre.	No. of Acres.	Pro-duction.	Av. per Acre.	No. of Acres.	Pro-duction.	Av. per Acre.	No. of Acres.	Pro-duction.	Av. per Acre.
	Acres.	Bus.	Bus.	Acres.	Bus.	Bus.	Acres.	Bus.	Bus.	Acres.	Bus.	Bus.
1873	10,611	206,733	19.49	108	2,286	21.17	1,227	18,562	15.13	101	1,699	16.82
1874	13,836	199,538	14.42	111	1,805	16.26	1,436	28,293	19.70	158	3,689	23.34
1875	10,698	194,815	18.21	63	1,093	17.35	901	11,185	12.41	127	3,107	24.46
1876	8,740	150,421	17.56	24	333	19.95	1,135	24,473	21.56	233	6,257	26.85
1877	14,966	357,986	23.92	72	1,991	27.65	2,088	51,852	24.83	130	3,725	28.65
1878	16,395	364,399	22.23	59	1,340	22.71	1,555	39,939	25.68	227	3,967	27.48
1879	18,594	454,846	24.46	75	2,220	29.60	1,435	37,248	25.95	455	7,302	16.05
1880	19,090	432,764	22.67	65	1,675	25.77	1,167	31,855	27.29	176	2,861	16.27
1881	15,797	424,466	26.80	.....	.....	.....	1,074	30,081	28.94	334	10,934	33.73
1882	21,659	540,083	24.93	207	4,962	23.97	1,357	38,511	28.50	460	11,649	25.32
1883	24,529	556,076	22.67	72	2,215	30.76	2,061	62,589	30.37	265	6,604	24.92
1884	30,437	821,168	26.98	29	656	22.62	2,512	72,517	28.86	881	29,116	33.05
1885	26,721	709,799	26.56	198	5,667	28.62	2,473	82,123	33.21	1,582	34,121	21.56
1886	22,843	514,182	22.94	234	4,509	19.27	2,274	73,402	32.28	602	16,187	26.88
1887	26,155	770,200	29.44	166	5,164	31.11	3,423	123,559	36.38	2,425	70,072	28.89
1888	25,180	702,213	27.88	355	9,968	28.68	8,789	374,946	42.67	2,979	93,326	31.33
1889	25,885	631,592	24.39	360	13,620	37.83	5,558	159,163	28.63	1,443	25,712	17.82
1890	32,879	655,273	19.93	476	14,920	31.34	5,233	244,766	46.75	2,495	35,809	14.70
1891	37,829	1,250,784	33.06	547	21,174	38.71	6,160	212,501	34.49	2,511	62,570	24.92
1892	32,331	837,835	25.91	179	5,220	29.16	9,526	325,272	34.14	921	33,251	36.10

Year.....	OATS:			POTATOES.			MEADOW.		
	No. of Acres.	Pro-duction.	Av. per Acre.	No. of Acres.	Pro-duction.	Av. per Acre.	No. of Acres.	Pro-duction.	Av. per Acre.
	Acres.	Bus.	Bus.	Acres.	Bus.	Bus.	Acres.	Tons.	Tons.
1873	13,291	264,980	19.93	974	125,716	129.10	41,617	42,858	1.029
1874	18,120	425,305	23.47	1,875	230,920	123.15	48,774	43,751	.988
1875	13,583	302,913	22.30	1,690	112,157	66.36	41,970	38,943	.932
1876	13,164	349,793	26.57	1,195	184,317	154.24	46,157	40,090	.898
1877	16,519	517,764	31.34	1,137	183,497	161.38	53,251	53,161	.998
1878	18,334	545,729	29.77	1,327	216,883	163.43	43,679	47,646	1.091
1879	23,574	892,537	37.86	1,283	186,831	145.62	47,899	47,055	.984
1880	26,966	907,139	33.64	1,551	214,416	138.24	78,599	74,657	.949
1881	41,365	1,406,749	34.07	2,071	360,845	174.23	85,297	84,240	.988
1882	46,632	1,850,531	39.68	2,360	392,223	166.19	98,126	112,780	1.149
1883	58,789	2,023,992	34.43	2,903	412,681	142.15	128,772	187,502	1.458
1884	57,567	2,097,935	36.44	3,552	663,415	186.77	144,254	158,351	1.097
1885	49,954	1,751,010	35.05	3,818	437,837	114.67	142,983	164,458	1.080
1886	56,096	1,746,398	31.13	2,943	508,467	172.77	199,762	176,320	.882
1887	84,778	3,026,572	35.70	3,688	842,648	228.58	209,055	235,357	1.125
1888	80,294	3,034,748	37.78	3,614	736,211	203.76	250,687	274,790	1.096
1889	54,962	1,857,394	33.77	2,898	371,669	128.25	206,730	184,065	.889
1890	76,849	2,524,507	32.85	4,318	735,971	170.44	371,628	412,386	1.109
1891	82,872	3,395,439	40.97	13,566	989,679	72.95	303,294	326,790	1.074
1892	94,558	3,672,744	38.84	3,431	550,613	160.48	253,374	332,896	1.313

* Collection of these statistics was begun in 1873 and ended with 1892.

There were in Montana Sept. 1, 1894, thirty-five National Banks and fourteen private banks with a paid up capital of \$7,077,000.

The larger streams of Montana have generally too much fall for navigation, even where there is sufficient water. The smaller streams have not infrequently a fall of 25 to 75 feet to the mile. This very fact renders them that much more available for irrigation, mining and power purposes. For the first two the advantage is apparent now, and while for the present there is limited conversion for manufacturing or electrical purposes the days will come when these rushing waters will furnish power, light and heat for many industries and many people. All things are ordered well.

AVERAGE PRICES AT WHICH MONTANA FARMERS COULD MARKET PRINCIPAL PRODUCTS IN CITIES AND TOWNS OF THE RESPECTIVE COUNTIES DURING THE TWELVE MONTHS ENDED JUNE 30, 1894, AS STATED BY, OR AVERAGED FROM, REPORTS MADE BY PRINCIPAL DEALERS THEREIN.

COUNTIES AND TOWNS.	Wh't.	Barley.		Oats.		Pota- toes.	Ruta- bagas.	On- ions.	Hay (baled per ton.		Hay (loose) per ton.	
	Av. Price per bu....	Av. Price per bu....	Av. Weight per bu....	Av. Price per bu....	Av. Weight per bu....	Price per 100 lbs....	Price per 100 lbs....	Price per 100 lbs....	First Quality..	Second Quality..	First Quality..	Second Quality..
BEAVERHEAD CO.—	Dols.	Dols.	lbs.	Dols.	lbs.	Dols.	Dols.	Dols.	Dols.	Dols.	Dols.	Dols.
Dillon	.60			.40	43	.65	.65	2.50	11.00		8.25	
Dewey's									12.50		11.00	
CASCADE CO.—												
Great Falls	.60			.41	33	1.08	.87½	1.79			10.66	7.50
Cascade	.60			.32	32	1.00	.75	1.25	11.00		8.00	
Monarch				.37		1.50			12.50		10.00	
CHOTEAU CO.—												
Fort Benton	.60			.40	40	1.00	1.00	2.00			10.00	7.00
Have	.50			.50		1.50	2.00	2.50	15.00	10.00	8.00	4.00
CUSTER CO.—												
Miles City	.75			.41½		1.25	2.00	14.00			12.00	
Forsyth	.75			.4	32	1.25	1.60	2.00	15.00		12.00	
Alzada	.65			.52½	35	1.00		2.00				5.00
DAWSON CO.—												
Glendive	.48					1.37	1.00	1.75			10.00	
DEER LODGE CO.—												
Deer Lodge	.75			.36½	40	1.00		2.75	15.00	12.00	10.00	8.00
Anaconda												
Bald Butte	.75			.40		1.50	1.50	2.00	20.00	18.00		
FERGUS CO.—												
Lewistown	.60			.60		2.00			12.00		10.00	
FLATHEAD CO.—												
Kalispell	.45	.40		.30		.75		2.50	12.50	10.00	11.00	7.00
Libby				.25½		1.25	1.50	2.00	15.00			
GALLATIN CO.—												
Bozeman	.60	.45½	48	.30	30	.67			12.00	10.00	11.00	9.00
Manhattan	.60	.41	50	.26	40	.75	1.00	2.00	10.50	8.00	7.00	5.00
GRANITE CO.—												
Phillipsburg	.66			.35	35	.65	.50	1.50	15.00	13.00	12.00	10.00
JEFFERSON CO.—												
Boulder	.60				32	.75	.75	3.00	10.00	7.00		5.00
Radersburg	.60			.28	32	1.00	.50	2.50	12.00	8.00	10.00	4.75
LEWIS AND CLARKE CO.—												
Helena	.60	.51½	.52½	.38	38	1.00	.60	1.50	13.50	11.00		
MADISON CO.—												
Virginia City	.60	.69	55	.35	40	.75	.75	3.00	14.00	12.50	11.00	9.00
MEAGHER CO.—												
White Sulphur Springs	.82½			.37½	.37½	1.25	.50	3.00	16.00	12.50	10.00	8.00
Neihart												
Barker						1.00	1.00		15.00	12.00	12.00	8.00
Townsend	.45	.60	54	.25	32	.85		2.00	12.00	10.00	8.00	6.00
MISSOULA CO.—												
Missoula	.67½	.43	48	.37½		.87½	.75	2.00	17.50	14.50	12.50	9.00
PARK CO.—												
Livingston	.80			.35	36	.75	.75	2.00	16.00	13.00	14.00	10.00
Red Lodge	.75			.46	40	.87½	.67½	1.75	14.50		10.00	8.00
RAVALLI CO.—												
Stevensville	.40			.21	37	.60	.50	.90	12.00		9.00	
Corvallis	.60			.25	40	.60	.75	1.00	12.00	10.00	10.00	8.00
Grantsdale	.45			.30	35	.50	.25	1.00	10.00	8.00	8.00	6.00
Woodside	.45			.22½	37	.60	.40	.80	9.00		6.00	
SILVER FLOW CO.—												
Butte	.47½	.53	50	.31	32	.96	.82	1.58	16.00	12.00	10.00	8.50
TETON CO.—												
Choteau	.75			.55	38	1.00					5.00	
Dupuy				.47½		.75		2.00			5.50	
YELLOWSTONE CO.—												
Billings	.60			.36	40			2.00	8.50		7.00	
Columbus	.45			.32½	35	.75	.50	1.50	10.00	6.50	8.00	4.00

The State has established a tax of ten cents per pound on "oleomargarine" after July 1, 1895. This is practically prohibitory and will largely increase the sale of butter, as large quantities of "oleo" have been imported and consumed in working camps and cheap eating places.

MARKET PRICES OF FARM PRODUCTS—CONTINUED.

COUNTIES AND TOWNS.	Eggs.	Butter, (Ranch)	Poultry	Is There a		Montana Flour			Montana Pro- ducts, except flour, which is best.	
	Per dozen.	Per pound.	Per dozen.	Steady Market	Payable in—	Is quality improving?	Is it satis- factory to consum- ers?	Is it satis- factory to consum- ers?	Montana.	Imported
BEAVERHEAD CO.—	Dols.	Dols.	Dols.	Cash.	Mdse.					
Dillon .....	.20	.25			yes	yes	yes	yes	yes	
Dewey's .....	.25	.25	4.00			yes	yes	yes		
CASCADE CO.—										
Great Falls .....	.26½	.23½	5.10			yes	yes	yes	yes	
Cascade				yes		yes	yes	yes	yes	
Monarch .....	.30	.27½		no		yes	yes	yes	yes	
CHOTEAU CO.—										
Fort Benton .....	.20	.25		no		yes	yes	yes	yes	
Harre .....	.20	.20	3.50		yes	yes	yes	yes	yes	yes
CUSTER CO.—										
Miles City .....	.25	.22½		yes		yes	yes	yes	(a) yes.	
Forsyth .....	.25	.25	3.00	yes		yes	yes	yes	yes	
Alzada .....	.30	.20	3.50	no		(b)			yes	
DAWSON CO.—										
Glendive .....	.17½	.25	3.00	yes		(b)			yes	
DEER LODGE CO.—										
Deer Lodge .....	.20	.25	4.00	yes		yes	yes	yes	yes	
Anaconda .....	.25	.30		no		yes	yes	yes	(c) yes.	
Bald Butte .....	.35			yes						
FERGUS CO.—										
Lewistown .....		.30		no		yes	yes	(d)		
FLATHEAD CO.—										
Kalispell .....	.17	.25	3.00							
Libby .....	.14	.21		yes						yes
GALLATIN CO.—										
Boz man .....	.22	.26½	4.00	no		yes	yes	yes	yes	
Manhattan .....	.30	.25	4.00	yes		yes	yes	yes	yes	
GRANITE CO.—										
Phillipsburg .....	.25	.25	6.00	no		yes	yes		yes	
JEFFERSON CO.—										
Boulder .....	.25	.25	5.00	yes		yes	(e)	yes	yes	
Radersburg .....	.29	.25	4.75	yes		yes	yes	yes	yes	
LEWIS AND CLARKE CO.—										
Helena .....	.21¼	.26¼	5.00	yes		yes	yes	(f)		
MADISON CO.—										
Virginia City .....	.22½	.25	4.00	yes		yes	yes	yes		
MEAGHER CO.—										
White Sulphur Springs ..	.22	.26¼	3.50	yes		yes	yes		(g)	
Neihart .....	.30	.25	6.00			yes	yes	yes	yes	
Barker .....	.30	.30	4.00	no		yes	yes	yes	yes	
Townsend .....	.20	.20	4.00	no				yes	yes	
MISSOULA CO.—										
Missonla .....	.25	.27½	4.25			yes	yes	yes	yes	
PARK CO.—										
Livingston .....	.22½	.22½	4.50			yes	yes	yes	(h)	
Red Lodge .....	.25	.25	4.00	no		yes	yes	yes	yes	
RAVALLI CO.—										
Stevensville .....	.15	.20	3.50	yes		yes	yes	yes	yes	
Corvallis .....	.20	.20	4.00	no		yes	yes	yes	yes	
Grantsdale .....	.20	.20	3.75	no		yes	yes			
Woodside .....	.15	.17	3.00	no				(i)		
SILVER BOW CO.—										
Butte .....	.25	.22	6.50							
TETON CO.—										
Choteau .....	.25	.30	4.00	yes		yes	yes	yes	yes	
Dnpuyer .....	.25	.25	3.00	no		yes	yes	yes	yes	
YELLOWSTONE CO.—										
Billings				yes		yes	yes	yes		
Columbus .....	.20	.20	4.00	yes		yes	yes	yes	yes	

NOTE—Average weight of wheat per bushel is stated at 60 pounds. Rye is only quoted from Miles City: average price 70 cents per bushel. Peas are only quoted from Ravalli County, ranging from \$1.50 to \$1.75 per bushel. Barley, being principally purchased by brewers, is only quoted by dealers in two counties, viz: Kalispell, Flathead County, at 40 cents per bushel; Bozeman, Gallatin County, 49½ cents per bushel, and Manhattan, Gallatin County, 41 cents per bushel; average weight per bushel 50 pounds. The other prices are taken from reports of brewers.

(a) flour excepted; (b) none used; (c) except potatoes; (d) vegetables; (e) for pastry only; (f) hay and oats; (g) preference given to imported flour; (h) imported flour best; (i) Montana, except flour.

* Except in those mining camps effected disastrously for the time being by the extraordinary depression of silver there was usually a steady merchandise and generally a cash market.

COMPARATIVE SALE OF MONTANA AND IMPORTED FARM PRODUCTS.

IMMENSE SUMS ANNUALLY SENT OUT OF THE STATE FOR FARM PRODUCTS THAT SHOULD BE SUPPLIED FROM MONTANA FARMS.

The enormous quantity of farm products shipped into Montana annually from other states and territories, and sold in this State to the exclusion from our cash markets of a corresponding amount of Montana farm products, induced the Bureau of Agriculture, Labor and Industry in 1894 to undertake an investigation to ascertain as nearly as possible the relative quantity of these imported products handled by dealers in the State during the year ended June 30, 1894. That the purchase outside of the State of any farm products which can be raised in the State is bad policy all will admit; but the extent to which it is practiced by Montana is suicidal and it is not believed any other state would or could stand the enormous drain on its vitality which Montana has endured, and notwithstanding which, owing to her other great resources, has prospered. The bad times caused by the legislation against silver and its consequent depression, suggested it as an opportune time to call public attention to this evil policy. There is no law of the State requiring railroad companies to report the quantities of any commodities shipped into the State. If there were, it would be an easy matter to ascertain the quantity and value of such imported products. To ascertain these facts after receipt and distribution to dealers and consumers was practically impossible, except at a very great expense. The only remaining method was to ascertain from dealers as nearly as possible the relative percentage of Montana and imported farm products sold during the year. Schedules to ascertain this were therefore prepared and sent to all principal dealers in such products in the State whose addresses could be obtained. Reports were received from dealers supplying 47,270 persons with flour and a lesser number with the other products enumerated below. The results, with qualifying explanations were given, by counties, in the Second Annual Report of the Bureau. The following table gives the approximate result in the State, expressed in percentages:

COMMODITIES.	Per Cent of Montana Products Sold in State, 1894.	Per Cent of Imported Products Sold in State, 1894.
Flour.....	59.56 per cent.	40.44 per cent
Pork, Bacon and Ham.....	10.60 "	90.00 "
Lard.....	7.68 "	92.32 "
Butter.....	60.19 "	39.81 "
Cheese.....	1.63 "	98.37 "
Eggs.....	56.65 "	43.35 "

There is no necessity for sending out of Montana for any of these products. They can be produced here as good as they can be imported, in most instances better. If Montana productions are inadequate to supply the demand the supply should be increased. In every instance where used it was stated the quality of Montana flour was excellent and improving as better milling processes were introduced, and in every instance but four it was stated to be satisfactory to consumers; yet 40 per cent of the flour consumed in the State, and larger proportions of other products were imported. In nearly every instance of other products than flour, those of Montana were pronounced the best. While the percentage results obtained by the investigation are not susceptible of exact reduction to dollars and cents it sufficiently demonstrates the enormous and constant drain of money going out of the State to purchase farm products which could and should be produced by Montana farmers, thereby developing and building up the agricultural interests of the State and contributing to its prosperity and permanent wealth. The results of the investigation are introduced here to demonstrate that the demand for these products, as well as

many others, largely exceeds the Montana supply, and that producers here do not depend for their markets on exportation to remote places. Except barley and potatoes, few agricultural products have been exported, and these only because of their superior quality and demand for them abroad.

STOCK GROWING AND WOOL INDUSTRIES.

It is estimated the grazing areas of the State, that is, the area where nutritious native grasses grow, and for which there is not probably sufficient water available for agricultural purposes, covers about 40,000 square miles. It applies to a great part of the eastern half of the State. This is generally public domain and is largely occupied as grazing country by owners of large numbers of cattle and sheep, where they are bred and grazed the year round under the charge of "range riders" or "herders," and marketed in season by driving to a near railroad point and shipping them east. This industry is a very important one and is mentioned in preceding pages. It is generally engaged in by persons or companies having large capital, with many hundreds or even thousands of head of stock and requires experience and executive ability to conduct it successfully. Not being an industry in which immigrants would probably engage, it is only briefly mentioned here. But every farmer may, and generally does, have smaller bands of cattle and horses which range on the public domain near his farm. These may be driven in and fed if necessary during the few weeks of severe winter weather. Sheep require herding and it does not therefore pay to have them except in such considerable numbers as will justify the employment of a herder. Cattle and hogs pay farmers well to raise and feed for local markets and add materially to the farm revenues. The following table shows the number and value of

MONTANA CATTLE MARKETED, 1891 TO 1894.

Years.	Number Shipped to Eastern Markets.	Number Killed for Home Markets and Indian Agencies.	a Average Net Value per Head.	a Total Net Value.
1891.....	225,000	51,000	\$40 00	\$11,000,000
1892.....	203,000	60,000	35 00	9,205,000
1893.....	222,158	57,000	30 90	8,625,982
1894.....	242,655	60,000	35 00	10,592,925
Totals.....	892,813	227,000	\$35 22	\$39,423,907

a. The average cost of freight to Chicago and marketing expenses, \$7.50 per head, is not included in computing these values.

ESTIMATED WOOL CLIP OF MONTANA, 1886 TO 1894.

Compiled from Report of Bureau of Statistics, United States Treasury Department.

Year	Av'rge weight per Fleece.	No. of Sheep.	Wool Un-washed.	Wool washed and Un-washed.	Shrink-age.	Wool Scoured.	Price per lb. of Medium Washed in New York Market.			
..... Year	Pounds	Number.	Pounds.	Pounds.	Per Ct.	Pounds.	Jan. cts.	April cts.	July cts.	Oct. cts.
1886	7	718,750	5,031,250	a	65	1,760,938	36	34	33	38
1887	7	754,688	5,282,816	.....	65	1,848,986	38	37	37	36
1888	.....	.....	.....	.....	.....	.....	35	34	33	34
1889	7	1,391,500	.....	9,740,500	65	3,409,175	38	37	39	37
1890	7	1,989,845	.....	13,928,915	65	4,875,120	37	36	37	37
1891	7	2,067,337	.....	14,471,359	65	5,064,976	37	37	35	35
1892	7½	2,089,337	.....	15,670,028	63	5,797,910	35	34	34	33
1893	7	2,528,098	.....	17,696,686	63	6,547,744	33	32	26	24
1894*	6½	2,714,166	.....	17,642,079	63	6,527,469	24	23	21	21

* From Bulletin of National Association of Wool Manufacturers. The estimates and numbers of sheep and aggregate products for 1893 and 1894 are each greater than the Montana estimates.

NOTE.—The estimated average cost of freights, etc., in marketing Montana wools in Boston is 2½ cents per pound. Sheep shearing costs 6 to 7 cents per head and board. Average wages of sheep herders

In 1894 was \$30.96 with board. The number of mutton sheep marketed ranges from 100,000 to 300,000 annually. The sheep industry, owing to the low price of wool and mutton, was much depressed in 1894, the average value of mutton sheep in Chicago being about \$2.50 per head, but prices have advanced with the rise in beef. The receipts of Montana growers for wool and mutton in 1894 approximated \$2,000,000.

NUMBER AND AVERAGE ASSESSED VALUE OF CERTAIN CLASSES OF STOCK IN THE SEVERAL COUNTIES OF MONTANA, AS RETURNED BY ASSESSORS 1894.

COUNTIES.	HORSES.		COWS.		STOCK CATTLE.		SHEEP.		HOGS.	
	Number Assessed ..	Average assessed value	Number Assessed ..	Average assessed value	Number Assessed ..	Average assessed value	Number Assessed ..	Average assessed value	Number Assessed ..	Average assessed value
Beaverhead	No. 9,921	Dols. 14.88	No. 1,113	20.00	No. 24,570	12.00	No. 81,874	1.50	No. 328	Dols. 4.38
Cascade	9,212	20.68	2,521	22.13	25,331	15.25	140,012	1.51	1,017	5.47
Choteau	9,134	16.27	779	20.00	62,704	14.95	253,790	1.50	260	5.00
Custer	27,597	15.07	750	20.00	187,655	16.46	218,696	1.57	159	5.17
Dawson	6,668	24.24	195	25.00	67,627	16.54	106,251	1.75	3	5.00
Deer Lodge	9,045	18.09	2,475	20.65	13,354	12.98	40,498	1.54	300	4.66
Fergus	13,594	21.59	1,204	25.00	58,468	15.00	383,721	1.50	432	5.00
Flathead	3,581	21.35	1,032	20.40	4,639	12.12	73	1.49	899	4.58
Gallatin	13,126	20.41	2,372	20.00	14,510	12.20	16,990	1.50	2,024	5.04
Granite	3,760	20.58	866	20.34	6,092	12.00	4,147	1.50	443	4.07
Jefferson	8,474	18.24	2,225	20.04	12,150	12.06	6,760	1.50	637	5.00
Lewis and Clarke ..	6,448	23.43	2,212	20.00	12,259	15.05	45,893	1.50	260	3.28
Madison	16,974	16.70	730	20.00	26,456	12.11	28,990	1.50	1,206	5.04
Meagher	10,215	16.90	3,303	19.00	23,880	15.04	269,613	1.50	925	4.12
Missoula	3,248	30.58	1,633	23.49	3,165	12.48	1,250	1.67	924	5.00
Park	7,318	21.62	1,269	19.98	15,552	14.96	134,653	1.50	770	5.09
Ravalli	3,759	32.02	2,069	20.67	5,684	12.13	16,459	1.50	1,682	5.04
Silver Bow	3,459	28.68	1,510	20.00	1,894	14.46	1,679	1.45	35	9.57
Teton	6,412	13.38	351	20.05	17,489	15.00	166,691	1.50	64	6.20
Yellowstone	2,689	19.23	164	20.00	27,452	15.00	46,706	1.50	34	5.00
Valley	9,999	19.69	770	20.00	31,636	15.00	264,134	1.50	194	7.00
Total	184,633	.....	28,473	.....	642,427	.....	2,228,875	.....	12,596	.....

SOME DETAILS BY COUNTIES.

RELATING TO AREA, POPULATION, PRINCIPAL PRODUCTIVE RESOURCES, AVAILABLE LANDS AND WATERS, OPPORTUNITIES, ETC., ETC.

(Below is given in concise form some information relative to the respective counties as derived from accepted authorities or reported to this Bureau by prominent residents. It is confined principally to those matters deemed of special interest to intending agricultural immigrants. Living springs of purest water abound throughout the State, but, as the location of towns and farm buildings sometimes requires wells to be sunk, the depth to water is given. Streams are generally fringed with cottonwood timber, but as both pole and wire fences are used and pine is generally used for fuel, distances to pine timber are given. With frequent changes of boundary by organization of new counties, the areas of counties given are in some instances estimates and doubtless vary from what exact measurements will show. Following this title are given, by counties, in tabulated form, from the best obtainable information, the names of irrigating streams, their flow, amount of water already appropriated and approximate average width of valleys. Valleys generally take their names from the streams. Other matter relating to the several counties appears in the statistical tables, as that form enables more concise presentation.)

BEAVERHEAD COUNTY.

The area of Beaverhead County is 4,200 square miles. Dillon, the county seat, is 328 miles north of Ogden, on the U. P. system of railroads. The estimated population of Dillon is 1,200 to 1,400, and of Beaverhead County 4,500. The greater part of the county is mountainous or grazing lands, but there are some large farming valleys the elevations of which range from 4,800 to 5,500 feet. Principal valleys are the Beaverhead, Big Hole, Red Rock and Black Tail with their tributaries. The soil in the valleys is generally a sandy loam from one to six feet deep.

The bench lands are also fertile. Beaverhead County is a large producer of gold, silver, copper and lead. Some of the earlier developments of mining in the State were at or near Bannack, which was the first capital of Montana. The mines and extensive reduction works of the Hecla Consolidated Mining company are located at Glendale, near Melrose.

Aside from its mining industries the principal productive resources are stock raising and farming. All cultivated lands require irrigation. Oats, barley, potatoes, timothy and alfalfa are principal crops, as they are most marketable. They are largely marketed at Dillon, Glendale, Lima, Bannack and Melrose. Hay, grain and potatoes are also shipped in large quantities to Butte and Anaconda, 70 to 80 miles north of Dillon. The valleys are generally too high for the larger fruits, but all small fruits are grown. Timber for fencing and fuel is generally obtained within three to five miles of the farms. Lumber sells at \$15 to \$18, and brick \$8 to \$10 per thousand.

Except the Beaverhead most of the valleys are comparatively narrow, and good grazing lands on public domain are convenient to most farms. There are still some public lands on Big Hole and other of the higher streams where unappropriated water can be diverted inexpensively, but nearly all lands of this character are taken up. There are considerable areas where large ditches or canals can be taken out on fertile lands.

Fairly improved lands with water rights and ditches can be purchased in Beaverhead valley from \$10 to \$20 per acre, and in some other localities at still lower prices. But little wheat has been raised, owing to the lack of demand, and one of the enterprises offering a good field for investment is a flouring mill at Dillon.

Beaverhead is one of the oldest settled counties in the State. Its people are prosperous and society is well established. Schools and churches are numerous. The State Normal School is located at Dillon.

Mr. J. W. Scott, of Red Rock, writes: "I have farmed ten years in Red Rock valley and ten years in one of the best 'blue grass' counties of Iowa, and am satisfied that farming is twenty per cent better here than there."

Among those who may be applied to for further information are Ex-Governor B. F. White, J. E. Morse and W. T. Mauldin, Dillon, and J. W. Scott, Red Rock.

CARBON COUNTY.

Carbon County was created by act of the Legislature in 1895 from portions of Park and Yellowstone counties. Red Lodge, the county seat, is 952 miles west of St. Paul and is reached by the Rocky Fork branch of the Northern Pacific railroad. Estimated population of Red Lodge 1,300 to 1,400; of Carbon county, 4,000. The area of the county is estimated at 3,000 square miles. It is composed of agricultural, grazing and mountainous lands. Its principal productive resources at present are coal mining, farming and stock raising. The Rocky Fork coal mines at Red Lodge employ about 300 persons and produce some 175,000 tons of coal annually. The coal is of excellent quality and the measures very extensive. The production is only limited by the demand. There are gold quartz lodes and placers on Clarkes Fork as yet scarcely developed.

The principal valleys are Yellowstone, Clarkes Fork, Stillwater, Rocky Fork, Rosebud and tributaries. It is estimated forty square miles of the agricultural lands are already irrigated with a very considerable amount of available water in the streams not yet appropriated. All cultivable lands require irrigation. The elevations of the farming valleys range from 3,400 to 5,500 feet. The soil is a sandy loam from two to ten feet deep, and all kinds of grains, grasses and vegetables grow well. Corn is grown on the Yellowstone. All kinds of small fruits are grown, and apples, grapes, etc., can be raised in the lower valleys. The snowfall in the valleys varies from six to eighteen inches.

Red Lodge is the principal market for farm products, and is the only town of considerable size in the county. Farmers obtain timber in three to twelve miles from their ranches. Coal is largely used for fuel. Lumber sells at \$10 to \$15, and common brick from \$8 to \$10 per thousand. Water is found at ten to thirty feet. The facilities for combined farming and stock raising are unusually good. There are stated to be considerable areas of good farming lands on Clarkes Fork, Rock Creek and other streams for which unappropriated water can be obtained. It is not known that much improved land is for sale in the county. Among the opportunities for the profitable investment of capital are mentioned quartz and placer mining, and in constructing irrigating canals, while the dairy business offers good opportunity to agriculturists. There are 44 miles of the Rocky Fork and Cooke City branch of the Northern Pacific railroad in the county.

The resources of Carbon County are comparatively undeveloped as yet, but it is a very promising county and has an energetic and progressive people. Mr. T. P. McDonald writes: "I can conscientiously recommend this county to the industrious, frugal farmer who will do principally his own work and feel safe not only in his making a good living, but that he will prosper and build a bank account, and in proof as examples of success will point to nine out of ten men settled on farms."

Among those who may be applied to for information are: Dr. J. M. Fox, J. N. Tolman, T. P. McDonald, A. A. Ellis, Thos. Hogan, C. E. Printz and W. J. Stratton & Co., Red Lodge.

CASCADE COUNTY.

The area of Cascade County is 2,600 square miles; estimated population 13,000 to 15,000; Great Falls the county seat, a city of 10,000 or more and the third largest in the State, is 1,082 miles west of St. Paul on the Great Northern railroad. The county consists of diversified valley, bench, foot hills and mountainous land. Principal valleys are the Missouri, Sun and Smith river the Muddy and their tributaries. The elevations of the principal valleys range from 3,400 to 4,000 feet. The soil of the valleys is a rich alluvial, and of the bench lands a sandy loam, underlain by clay. It ranges from eight inches to ten feet in depth. Cascade County has great and diversified resources. The Missouri river near the City of Great Falls has a series of falls within ten or twelve miles aggregating over 500 feet, and is estimated to be capable of supplying more than 400,000 horse power, an economically available energy for manufacturing and other purposes unsurpassed if equalled on the continent. Great Falls has already in operation great copper smelting and refining plants, costing millions of dollars, lumber and flouring mills, foundry and machine shops and other large employing enterprises, and has all the contributory resources and advantages to make it the future great city of Montana and one of the greatest cities of the northwest, affording assurance of excellent and permanent markets. It has now all the institutions of the most progressive cities and a very enterprising, energetic people. Five main or branch railroads radiate from it. It is a principal point for wool shipments. There are large producing coal mines opened at Sand Coulee and Belt, employing nearly 1,500 men, and gold, silver and iron mines, and valuable fire clay deposits and sand stone in various parts of the county.

Wheat, oats, barley, rye, alfalfa, timothy and all kinds of vegetables and root crops are cultivated successfully. Small fruits are grown in the valleys and standard apples in some sheltered localities. In the greater part of the county irrigation is deemed desirable and is adopted to insure certain and increased crops, but on considerable areas of the bench lands good crops of wheat are grown, depending only on rainfall. It is estimated there are 1,800 square miles of arable lands in the county not yet irrigated and chiefly used for grazing purposes, a great proportion of which is open for settlement. There were 262,435 acres of land assessed in the county in 1894. The principal markets are at Great Falls, Sand Coulee and Belt, where there is always good demand. Farmers procure fencing and other timber within five to fifteen miles of their farms. The average cost of lumber is \$15 and of brick \$8.75 per thousand. Springs are numerous and water in wells is generally obtained at fifteen to twenty-five feet. There are usually good ranges for stock near the farms and stock raising is advantageously combined with farming. There are large areas on which water can be diverted through large ditches to the bench lands. The Priest Rapids Land & Irrigating company, of Great Falls, is taking out such a ditch to cover 17,000 acres this year and to be extended next year.

It is stated fairly improved lands can be purchased in the county at reasonable prices, but figures have not been quoted to this Bureau. Dairying, creameries and stock growing offer an inviting field for agricultural people at various places, and there are good opportunities for manufacturing and other enterprises at Great Falls and other points. There are schools and churches in every part of the county. There are 121 miles of the Great Northern system of railroads, and nineteen miles of the Great Falls & Canada railroad in the county.

Among those who may be addressed for further particulars are: Paris Gibson, Randall & Pryor, James Haven and the Crown Butte Canal company, Great Falls, and Wm. C. Lee, and T. A. Wall, Kibbey.

CHOTEAU COUNTY.

Choteau County covers an area of 14,835 square miles besides the Fort Assinnaboine and Fort Belknap reservations. It is named in honor of Pierre Choteau, a noted explorer and trader. It is composed of valley and undulating upland with the Bear Paw mountains rising near the center of the county and the Sweet Grass hills in the northwest. Fort Benton, the county seat, is 1,039 miles west of St. Paul on the Great Northern railroad. It is the practical head of navigation on the Missouri river, and before the advent of railroads was the great commercial distributing point in Montana. The population of Benton is estimated at 500; Choteau County 4,560. The principal towns are Fort Benton, Havre, Chinook, Harlem and Big Sandy.

The larger part of the county is grazing land of admirable character, and the great industry of the county is stock and wool growing. Irrigation is necessary for cultivation, and so far water has only been diverted on a small portion of the land, but it is very productive. Principal valleys are the Missouri, Marias, Milk River, Teton and their tributaries. The soil varies from a sandy and black loam on the uplands and near the mountains to a stiff soil in the bottoms. Its depth ranges from a few inches to four or five feet. The farming areas range in elevation from 2,700 to 4,700 feet. Wheat, oats, barley, rye and all the grasses and root crops grow well. In some localities corn is raised. Snow falls from one to two feet deep, but generally blows off quickly, or is taken off by the chinooks. The principal markets are at Great Falls, Fort Benton, Havre, Chinook, Harlem, Big Sandy and the reservations, which absorb all the present prod-

ucts. Fairly improved farms with water rights sell for \$10 per acre and upward. Lumber sells at from \$8 to \$20 per thousand. Water is obtained from ten to forty feet. Timber is obtained generally from one to twenty miles from farms. At present the irrigated lands are pretty well occupied, or occupancy arranged for. The Haarlem Irrigation company has brought a canal from Milk river, which will irrigate this year 7,400 acres, all of which have been disposed of. The Fort Belknap Canal and Irrigation company has also brought out a canal, 10,000 inches capacity, from Milk river, which, it is stated, will irrigate 16,000 acres, of which 12,800 acres have been disposed of. It is reported other large canals can also be supplied from Milk river and carried on arid lands of excellent quality, and Choteau County is suggested by residents as a good field for reclamation under the Carey act. Where irrigated farms can be had, and some stock grown, there are good inducement to settlers, but stock growing is the principal industry. Gold, silver, copper, marble and abundant coal are found in different parts of the county. There are 274 miles of Great Northern railroad in the county.

Among those who may be addressed for further information are: Fort Belknap Irrigation company, Chinook; Fred Scott, Lloyd; A. G. Staton, Chinook; John W. Power, W. K. Harber, Geo. B. McLaughlin, Chas. H. Boyle, Thomas A. Cummings, Fort Benton; Simon Pepin and E. B. Norell, Havre.

CUSTER COUNTY.

The area of Custer County is 26,580 square miles. It is named in honor of General Custer, who fell in heroic battle at the Big Horn in 1876. Miles City, the county seat, is 774 miles west of St. Paul on the Northern Pacific railroad. The estimated population of Miles City is 1,500, and of Custer County 4,800. Fort Keogh, garrisoned by several Companies of United States troops, is located two miles west of Miles City, which is headquarters for cattlemen and an important wool and cattle shipping point. The State Reform School and a United States Land Office are located at Miles City. The county is composed chiefly of undulating table lands, with considerable valley land, and is somewhat mountainous in the southwestern portion. The principal valleys are the Yellowstone, Tongue, Powder, Box Elder and Rosebud and their tributaries. There are estimated to be 125 to 200 square miles of land now irrigated and some 5,000 square miles of tillable lands not yet irrigated, while 15,000 to 20,000 square miles are chiefly adapted to grazing. Lignite coal exists in inexhaustible quantities. The principal resources are cattle, sheep and horse raising with considerable farming. It has more stock cattle than any other county, 187,655 head having been assessed in 1894. All kinds of grain, grasses and vegetables grow abundantly on irrigated lands, which all require for cultivation. Melons, corn and tomatoes are grown in considerable quantities. The elevation of the principal valleys range from 2,300 to 2,500 feet. The snow fall averages twelve inches; extreme, fifteen to twenty inches. There is considerable timber in the south and southeastern part of the county. Cottonwood, ash, box elder, with a little pine grow along the streams. The principal markets for farm products are at Miles City and Forsyth. Melons and tomatoes are shipped to Butte and Helena. Apples, cherries, grapes and small fruits can be grown in the Yellowstone and tributary valleys. The price of lumber ranges from \$22 to \$25, and of common brick from \$8 to \$9 per thousand. Well water is obtained in the Yellowstone valley at twelve to fifteen feet, and artesian wells get flowing water at Miles City at 185 to 420 feet.

There are considerable areas of unoccupied tillable lands in the county, but owing to high banks and the light fall of streams, irrigation by individual enterprise is generally somewhat expensive. Two companies have organized at Miles City to take out water in large quantity. It will be seen the climate of Custer County enables the growing of fruit, melons, corn and like products, and it is considered a good field for industrious incoming farmers who have enough means to procure a team and a few cattle and to subsist on the first year. Improved land with water rights near Miles City can be purchased at from \$25 to \$50 an acre. There are sixty-three miles of the Northern Pacific railroad in the county. Mr. Geo. Scheetz, of Miles City, writes: "About eight per cent of the lands of this county can be irrigated; the rest is good grazing land—probably the best for the purpose in the State. Nearly the entire population is interested in stock growing of some kind, and but little attention has been given to agriculture; but where attention has been given it has proved very remunerative."

It is stated a creamery, canning establishment, flour mill and woolen mill afford profitable field for investment at or near Miles City.

Among those who may be applied to for further information are: The Board of Trade, George Scheetz, John S. Truscott, J. B. Collins, Wm. Courteny, H. B. Wiley or B. Collieran, Miles City.

DAWSON COUNTY.

The area of Dawson County is approximately 13,194 square miles. It lies in the angle formed by the Yellowstone and Missouri rivers before they unite. Glendive, the county seat, is 666 miles west of St. Paul on the Northern Pacific railroad, of which there are sixty-three miles

in the county. The Great Northern railroad also skirts its northern boundary for a long distance. The population of Glendive is estimated at 1,400 to 1,500, and of Dawson County at about 2,000. Northern Pacific railroad shops are located at Glendive, and it is the headquarters of the cattlemen of the county. The great industry of the county is stock growing, as the greater portion of the county is grazing land. The county is a large producer of cattle, sheep, wool and horses. There are some good valley lands. The number acres assessed in 1894 was 311,286. The principal valleys are the Yellowstone and Missouri with their tributaries. The elevations of the farming valleys along the Yellowstone and tributaries range from 2,000 to 2,300 feet. The soil is a sandy loam, with some clay subsoil and "gumbo." It varies from one to six feet in depth. Almost the entire farming area requires irrigation, but some bottom lands along the Yellowstone have been cultivated without. Only a small part of the lands in the county are under cultivation; but large areas can be irrigated by taking one or more canals out of the Yellowstone, and enterprises of this nature are contemplated. Its valleys lie at low elevation, have a higher temperature than any other part of the State, and are capable of producing all crops and fruits adapted to the latitude and altitude. Corn makes a good yield. Wheat, oats, barley, rye and all grasses, vegetables and root crops grow well. The valleys are at a lower elevation than other localities where melons, fruits and like products are successfully grown, but attention so far seems to have been principally directed to stock raising, and the agricultural interests are practically undeveloped. There are local markets at Glendive, Mingsville and other points for all productions of the farms. The snow fall ranges from five to fifteen inches. Fencing, fuel and other timber is obtained generally one to three miles from the farms. Improved lands with water rights are held at \$20 to \$30 per acre. Pine lumber sells at \$20 to \$25, cottonwood at \$12 to \$14 and brick at \$10 to \$12 per thousand. Water is obtained in wells at twelve to twenty-five feet. All farms have good stock ranges adjacent. There is an abundance of lignite coal in the county. Stock raising is considered the most profitable investment in the county, but it is stated dairying, poultry raising and creamery business might be profitably engaged in near the principal towns.

Among those who may be applied to for further information are: Walter D. Kemmis, Sidney; J. C. Auld, J. H. Ray and James McCormick, County Clerk, Glendive; Geo. F. Grant and Frank Lovering, Newlon; H. Hodgson, Tokua.

DEER LODGE COUNTY.

The area of Deer Lodge County is 4,111 square miles. It derives its name from a conspicuous mound at Warm Springs formed by the overflow of thermal waters. The spring formerly emitted steam from the apex, resembling a gigantic wigwag or lodge. Hence the early French traders gave it a name signifying "the Deer Lodge." Deer Lodge, the county seat, is 119.1 miles west of St. Paul via Garrison on the Northern Pacific railroad and the Montana Union railroad. Population 1,300 to 1,400. Anaconda, the principal city in the county and the fourth largest in the State, has a population of over 7,000; estimated population of county 18,000. Other principal points in the county are Elliston, Stuart, Pioneer, Helmsville, Blackfoot, Warm Springs, Blossburg and Avon. The Deer Lodge, Hell Gate, Big Blackfoot and Nevada Creek with their tributaries are the principal valleys. The former is thirty-five miles long and averages five in width. There is a great deal of bench and grazing land with about 2,400 square miles of mountainous lands, principally timbered and mineral. About 200 square miles of the arable lands are now irrigated and cultivated, with nearly as much more not yet irrigated. The greater part of the smaller streams have been diverted for irrigating, mining or other industrial purposes, but by the storage system, for which the county is admirably adapted, the area of cultivable lands could be largely increased. The county is one of the oldest settled in the State and has important and diversified industries. Gold was originally discovered in this county on Gold Creek, and placer mining is yet an important resource. There are several belts of gold, silver and copper bearing quartz leads, some of which have been considerably developed and are proven valuable. There are extensive deposits of iron, coal, marble and fire clay and great areas of timber. The best clays and largest pressed brick works in the State are at Blossburg and Anaconda. Combined farming and stock raising are an important industry in all the valleys.

But the great industrial activity of the county is the Copper Smelting and Refining Works of the Anaconda company at Anaconda, where the product of its mines at Butte are largely reduced and refined. They are the largest in the world. The company produces copper annually to the value of \$12,000,000 to \$14,000,000; gives employment, directly or indirectly, to thousands of men in numerous thrifty industries and has built up one of the most progressive and prosperous young cities on the continent, with two railroad lines, electric railway system, and all modern facilities. The College of Montana and the Western State Prison are located at Deer Lodge, and the State Insane Asylum is at Warm Springs. There are schools and churches in every considerable community.

The principal agricultural products are hay, oats, barley, wheat, vegetables and all root crops. The soil varies from black to light sandy loam with clay and gravelly subsoils, ranges from eight inches to five feet deep, and is very fertile. The elevations of the farming valleys

range from 4,000 to 4,800 feet. Small fruits are grown, and in some sheltered localities, apples. The average snow fall in the valleys is about twelve inches, in the mountains three to four feet. The principal markets for Deer Lodge valley are at Anaconda and Deer Lodge; and for Nevada valley Helmville, Elliston, Drummond, Blackfoot and Avon. Hay, potatoes and other products are shipped to Butte. There are generally cash sales for all products. Fuel and fencing is obtained within one to ten miles of farms. Lumber sells at \$12 to \$20, and brick at \$8 to \$10 per thousand. Wells reach water generally at ten to thirty feet. There are good ranges for stock convenient to farms. Dairying, poultry and stock raising may be advantageously combined with grain and hay farming. Most of the lands covered by easily available waters are taken up. Fairly improved lands with water rights can be purchased at \$8 to \$25 per acre. There are ninety-eight miles of railroad in the county. There are large hot springs of mineral and medicinal water at Gregson and Warm Springs with good hotel facilities.

Among those who may be applied to for further information are: John R. Eardley and F. N. Fox, Anaconda; Stackpole & Shaubut and Davis & Peck, Deer Lodge, and John W. Blair, Helmville.

FERGUS COUNTY.

The area of Fergus County is 6,762 square miles. It is named in honor of Hon. James Fergus, one of the pioneers of the State. Although nearly central it is the only county in the State yet entirely without railroad communication, but it is not probable that condition will long exist. Lewistown, the county seat, has a population of 800 to 1,000, and has stage communication with the Great Northern and Northern Pacific railroads. There are a number of small, thrifty towns in the county with school and church facilities. The population of the county is about 5,200. The lands of the county are diversified valley, upland and mountains. It is splendidly watered by streams rising principally in the Great Snowy and Belt mountains. The principal valleys are the Judith, Big Spring, Warm Spring and their tributaries. The elevation of these valleys ranges from 4,000 to 4,400 feet. The principal industry, and that to which attention has been chiefly directed, is stock growing. It is a splendid pastoral county. In 1894 there were taxed 383,721 sheep (the largest number in any county and about one-sixth the entire number in the State,) 58,468 head of stock cattle, and 13,594 head of horses. The wool, beef and mutton sheep exports of the county are very large, and the agricultural productions are important.

The area of tillable lands is quite large and the cultivated area could be greatly increased. The soil of the cultivated lands is a rich loam ranging from one to ten feet in depth. Wheat, oats, barley, blue joint, timothy and alfalfa and all the vegetables and root crops yield well. Small fruits grow in all the valleys, and some apples and plums are grown in the Judith. The snow fall is usually about ten to twelve inches. Irrigation is necessary, although some areas under the Snowy mountains are cultivated in winter wheat without. Hay, oats and potatoes are considered the best paying crops. Flouring mills would largely increase the wheat production. Principal local market points are Lewistown, Gilt Edge, Maiden and Utica. Some productions are marketed at Great Falls, Belt, Armington, Neihart and Barker. Fuel and fencing is generally procured one to ten miles from farms. Lumber costs \$15 to \$16 and brick \$11 to \$13 per thousand. It is stated there are still tillable lands where water can be diverted at small expense, and there are opportunities for larger ditches or canals to divert water and reclaim lands with good prospects of fair return on the investment. Farming lands, fairly improved, with water rights, can be purchased at \$12 to \$18 per acre in different parts of the county. The Board of Trade of Lewistown is now preparing a circular giving more detailed information relating to the county. A packing house is soon to be erected at Lewistown. It is stated there is an opportunity for a creamery and an oatmeal mill at Lewistown, and a flouring mill and creamery at Utica.

Aside from its pastoral and agricultural resources Fergus County has gold, silver, copper, lead and coal. The mining industry is yet in its infancy. The county is stated to be a good field for practical mining men.

Among those who may be applied to for further information are: The Board of Trade, John O. Gilkerson, W. T. McFarland and B. C. White, Lewistown; M. Messner, Utica; W. S. Perkins, Alpine; I. M. Beatty, Maiden, and H. O. Wareham, Denton.

FLATHEAD COUNTY.

Flathead, an extreme western county, was established from the northern part of Missoula County in 1893. It derived its name from the Flathead Indian tribe, famed in song and story, and whose boast is they never shed white man's blood. Its land area is 8,434 square miles. Kalispell, the county seat, is 1,228 miles west of St. Paul, and 599 miles east of Seattle on the Great Northern railroad. Estimated population of Kalispell, 2,000 to 2,500; Columbia Falls, 500 to 700; of the county, 7,000. The Great Northern Railroad Company has shops and coal depot at Kalispell. The altitudes of the valleys range from 2,300 to 3,000 feet. There are a

number of extensive valleys, and besides these there are large timbered areas of good lands and mountainous timber and mineral lands. Flathead valley is estimated to contain 900 square miles. There is very little irrigation used in the county. It is the exceptional county in the State in this respect. Crops can be grown without it, the rainfall being adequate for ordinary agriculture, yet there are considerable areas at least where the yield could doubtless be increased by its use. The snow fall in the valleys ranges from twelve to fifteen inches. The low altitude, low lying timbered areas, greater rainfall and higher temperature makes Flathead more like a "States" county than any other in Montana. The soil of the bottom is heavy loam and clay subsoil, and of the higher bench lands sandy and gravelly. It ranges six to thirty-six inches in depth, and is very fertile. All kinds of grain, grasses, vegetables and root crops are grown. All small fruits are prolific bearers, and apples, pears, plums and cherries are being grown successfully in a number of places. The county has hardly been long enough settled to develop orcharding. Flathead Lake, the largest sheet of water in the State, thirty miles long and ten miles wide, and navigated by steamers, besides a number of smaller ones, is in this county. The fishing and hunting is excellent. There are more than 2,000 square miles of pine, tamarac, cedar and birch forest in the county. Logging streams are numerous and lumbering is an important industry. There are large showings of coal, iron, gold, silver, copper and lead in different parts, and although the county is scarcely prospected, yet it is demonstrated to be rich in natural resources. The principal agricultural markets are Kalispell, Columbia Falls, Libby and Troy. Some wheat, of which an excellent quality is grown, has been shipped to Duluth and Chicago; wheat, oats, potatoes and lumber to Great Falls, and lumber, flour and small fruits to Butte. Fuel and fencing can generally be cut on the farms, never more than two or three miles distant. Lumber sells at \$7 to \$10 and brick at \$6 to \$8 per thousand.

There are considerable areas of grazing lands, but in the farming communities the land is pretty generally fenced so that grazing is not so convenient. There are still some desirable unoccupied lands in the western part of the county near Tobacco Plains and Swan river and on the Smith fork of the Flathead river, but the greater part of the desirable land is claimed and occupied. The State has a large amount of University land in the county for lease or sale. A good many farms were settled upon or claimed years ago by speculative persons and held for sale. This part of Montana was practically inaccessible until the recent construction of the Great Northern railroad. Slightly or fairly improved lands in desirable localities can be bought at from \$5 to \$25 per acre. There are 197 miles of the Great Northern railroad in the county. A north and south railroad that will reach the big mining camp markets without so long a haul is desired and probable in the near future.

It is believed there are good opportunities for the manufacture of lumber and furniture; for a paper mill, starch factory, oatmeal mill, etc., and that celery culture and the development of cranberry marshes on Swan river would be profitable. A number of farmers from Nebraska, Iowa, the Dakotas and other states have settled in Flathead county and some have already sent for their friends.

Mr. Galen H. Wheeler, of Columbia Falls, writes: "Flathead County imports large quantities of bacon, ham and lard; we could raise our own hogs on rutabagas, potatoes and wheat. We import eggs in cold weather; we ought to export eggs and chickens. We import butter and cheese; we need a creamery and cheese factory. We send over 10,000 deer skins away and buy our buckskin gloves from New Hampshire and California. We raise as fine oats as ever grew, selling for fifty cents per 100, and buy imported rolled oats at \$6 per 100. We want an oatmeal mill, a tannery and a glove factory. We want a direct rail route that will enable us to ship our products to Butte and Helena. We will welcome brains, cash and muscle."

Among those who may be applied to for further information are: Chas. E. Conrad, W. C. Whipps, W. H. Griffin, Geo. F. Stannard, A. W. Swaney, J. W. Conner, Kalispell; John Lewis, Galen H. Wheeler, J. H. Miller, William Reed, Columbia Falls; Scott Anderson, Libby, and A. C. Sheldon, Sheldon P. O.

GALLATIN COUNTY.

The area of Gallatin County, as shown by the United States Land Commissioner, is over 2,600 square miles, of which nearly 1,700 square miles have been appropriated—a larger proportion than in any other county. Bozeman, the county seat, is 1,031 miles west of St. Paul, on the Northern Pacific railroad. The population of Bozeman is estimated at 3,000 to 3,500; of Gallatin County, 8,175. A United States Land Office and the State Agricultural College and Experiment Station are located at Bozeman, in the heart of the Gallatin Valley, the greatest agricultural producing valley in Montana or the entire Rocky Mountain region. Many years ago it was denominated by so eminent an authority as Professor Hayden "the Egypt of America." The extreme southern part of the county is chiefly mountainous, but the central portion is a convergence of valleys into the great Gallatin basin, containing an area of about 1,000 square miles. The elevations of the farming valleys range from 4,000 to 4,700 feet. The soil of the valley lands is black or sandy loam, ranging from ten to twenty-four inches deep, with clay subsoil. Irrigation is general, but of later years large areas of the foot hills close to

the high mountains have been cultivated without irrigation, and produce bounteous harvests of excellent wheat. Wheat, oats, barley, all grasses (including alfalfa), and all vegetables and root crops do well. Flax is also taking place as an important product. The snowfall ranges from twelve to twenty-four inches in the valleys. The principal local markets are at Bozeman, Belgrade, Manhattan and Logan. Grain, hay and other productions are also shipped to Butte, Helena and Anaconda. Small fruits are grown everywhere; apples and other fruits are grown in some sheltered locations. Fencing, fuel and other timber is procured on an average of ten miles from farms. Lumber costs \$12 to \$14, and brick \$8 to \$12 per thousand. Water is obtained in wells at ten to one hundred feet. Adjacent to farms along the foot hills and mountains there are good ranges for small bands of stock, but out in the valley there is not much good pasturage at commons. Most of the land to which water could be diverted at small expense has been taken up. There are still some bench lands in the northwestern part of the county that could be reclaimed by large ditches from the West Gallatin at a probable expense of \$10 per acre. The West Gallatin Canal company, Manhattan, has a canal fifty-seven miles long, twenty-four feet wide at top, sixteen feet wide at bottom and carrying a stream five feet deep to lands in the vicinity of Manhattan, but it has not been ascertained whether it has lands or water to sell or lease. Some 25,000 inches of water are taken out by large canal companies for irrigation purposes in the valley. Fairly improved lands with water rights can be purchased in different parts of the valley at from \$10 to \$50 per acre, averaging about \$33. The crop reports of the Gallatin Valley border on the marvelous. Director S. M. Emery, of the Montana Experiment Station, says: "The average of farm crops for the year 1894 were: Oats, 61½ bushels; spring wheat, 35½ bushels; winter wheat, 41 5-6 bushels; field peas, 23 bushels; potatoes, 231¾ bushels."

Besides the agricultural resources Gallatin County is rich in coal, gold, silver and lead, building stone, fire clay, timber and grazing lands. The Ferris Hot Springs are six miles from Bozeman. The coal mines of the county are among the best and largest producers in the State. There are seventy-seven miles of Northern Pacific railroad in the county. It is one of the oldest settled counties, with numerous thickly settled communities; schools and churches convenient.

There are large flouring mills and elevators at Bozeman and other points. It is believed there are good inducements offered for an oat meal mill, starch factory, dairying and poultry raising, etc., and that the production of flax will make opportunities for oil mills and manufacturing plants.

Among those who may be applied to for further information are: S. M. Emery, Walter Cooper, L. S. Willson, Peter Koch, O. P. Chisholm, Bozeman; Arthur Truman, Spring Hill, and George Kinkel, Jr., Manhattan.

GRANITE COUNTY.

The area of Granite County is 1,557 square miles. It derives its name from the famous Granite Mountain silver mine. It was established in 1893 from parts of Deer Lodge and Missoula Counties, and contains some of the oldest communities of the State. Philipsburg, the county seat, is 1,229 miles west of St. Paul, via Drummond, on the Northern Pacific system of railroads. The population of Philipsburg is estimated at 1,500 to 1,600, and of Granite County 4,575. The county is principally mountainous and timbered, but contains among others the large and fertile valleys of Flint Creek, Willow Creek and Hell Gate, with large areas of grazing lands. The principal industries of the county are gold and silver mining, stock growing and agriculture. The first silver mill in Montana, the "Hope," was built at Philipsburg and is still a large producer. The Granite Mountain mine at the same place has been denominated "the richest silver mine in the world." The Bi-Metallic and Combination and those before named have large properties and reduction works where millions of dollars have been invested and large numbers of men were employed until silver became so depressed that some of them temporarily closed down. The Royal company is a large gold producer and is in a belt containing other promising gold properties. There is also being developed a belt of rich gold leads in the northern part of the county, near famous old "Beartown," which has long been noted for its rich placers. Coal mines have been opened near New Chicago and Drummond. Philipsburg, Rumsey, Granite, Combination, Drummond, New Chicago and Beartown are the principal local markets for agricultural products. Some hay and grain are shipped to Butte and Anaconda.

The Hell Gate, Flint Creek and Willow Creek valleys are notably good agricultural regions. The elevations of these valleys range from 3,990 to 5,300 feet. The soil is black and sandy loam, varying in depth from a few inches to three or four feet. The more elevated portions of the Flint Creek valley are principally cultivated for hay. All grains, grasses, vegetables and root crops are cultivated and yield well in the lower valleys. All small fruits are grown, and some apples and cherries in the lower valleys. The average snowfall in the valleys ranges from twelve to fifteen inches. All cultivated lands are irrigated, and the available

streams are generally appropriated. The area of farming land could be largely increased by storage of surplus water in the earlier season at comparatively small expense. Improved farms with water rights can be purchased in the several valleys at from \$10 to \$30 per acre. Fuel and fencing timber is one to ten miles from farms. Lumber sells at \$8 to \$12 and brick \$7.50 to \$9 per thousand. Water is obtained in wells at ten to thirty feet. The silver mining industry of the county is temporarily depressed, but the county has other great natural resources, and periods of depression are most favorable for those seeking investment. There are sixty-one miles of railroad in the county. Schools and churches are convenient.

Among those who may be applied to for further information are: J. A. and J. B. Featherman, Drummond; George W. Morse, Wm. Dingwall, New Chicago; A. S. Huttman, W. T. Allison, Cralle & Wilson, Philipsburg.

JEFFERSON COUNTY.

The area of Jefferson County is 1,850 square miles. Boulder, the county seat, is 1,216 miles west of St. Paul, and may be reached either by the Great Northern system of railroads or by the Northern Pacific system via Helena. The population of Boulder is estimated at 1,000 to 1,200; of Jefferson County, 9,000 to 10,000. Other principal towns are Basin, Elkhorn, Whitehall, Winston, Lump, Radersburg and Wickes. The State Deaf and Dumb School is established at Boulder. A considerable part of the county is mountainous, but it has a number of fine agricultural valleys which are very productive, and a considerable area of grazing lands. All the principal points except Radersburg are reached by the Northern Pacific or Great Northern Pacific systems of railroads, of which there are 177 miles in the county.

The principal industry of Jefferson county is mining for silver and gold, of which it is a very large producer. Elkhorn, Basin, Lump, Winston, Whitehall, Corbin and Wickes are among the principal mining places. The Parrot Smelting company is erecting extensive reduction works at Gaylord, in Madison County, across the river from Whitehall. Copper and lead are also important productions. These mining camps, which are prosperous and support thousands of people, afford excellent local markets for farm products, and support numerous tributary industries. The mining industries are being rapidly and successfully developed.

The principal agricultural valleys are Boulder, Crow Creek, Jefferson, Prickly Pear, Fish Creek and Pipestone. Their elevation is generally from 4,000 to 4,500 feet. All these require irrigation, and the available waters are generally appropriated. The soil is a black or sandy loam, ranging from a few inches to four feet deep. Wheat, oats, barley, potatoes and all grass, vegetable and root crops are grown abundantly. Small fruits grow in all valleys, and apples and plums are grown in some sheltered localities. The usual valley snowfall is from six to twenty inches. Timber for fuel and fencing is usually obtained five to fifteen miles from farms. Lumber costs \$10 to \$15, and brick \$7.50 to \$8 per thousand. Water is obtained in wells at fifteen to sixty five feet. In some parts there are excellent stock ranges convenient to farms, but as a great deal of the natural shelter is fenced in, the bands of stock are limited to the number that can be sheltered on the farms and fed if necessary during the severest winter season. Garden farming near the mining camps is a profitable industry. Some grain and hay is shipped to Butte and Helena. The area of cultivated lands could be increased by the storage system.

Fairly improved farms with water rights can be bought in the different valleys at \$12.50 to \$20 per acre. There are famous medicinal hot springs at Alhambra, Pipestone and Boulder with good hotel facilities. There are schools and churches in every considerable community. There are stated to be good opportunities for small industries in some of the towns.

Among those who may be applied to for further information are: A. Belcher, David Hoopes, James E. Wood, Boulder; E. G. Brooke, Noble & Wyeth, Whitehall; Frank Wells, I. N. Anderson, G. E. Pool, Radersburg; Patrick Carney, Fish Creek.

LEWIS AND CLARKE COUNTY.

The area of Lewis and Clarke County is 2,600 square miles. It is named in honor of the noted explorers, Captains Lewis and Clark. Helena, the county seat and the Capital of the State, is 1,130 miles west of St. Paul, on the Northern Pacific railroad, and 1,181 miles by the Great Northern system of railroads. It was built on Last Chance Gulch, one of the great producing placer gold fields worked in the early days. The estimated population of Helena is 14,000 to 15,000, and of the county, 20,000 to 21,000. The Missouri river, fourteen miles away, offers great water power that will in the not distant future be utilized by electrical conversion and transmission for manufacturing, heating, etc. Helena is the second largest city of the State. Six transcontinental or branch line railroads, in operation, radiate from it, and another is under construction. Helena has long been known as the richest city for its population in the United States. Beside the State offices, and various other United States offices, it has a United States Land Office, six National and private banks, electric street railways, splendid public and private edifices and all the most advanced institutions and facilities of progressive cities. It is a most

desirable residence city. Large smelting works employing several hundred men are located at East Helena. Fort Harrison, to be garrisoned by United States troops, is in course of construction three miles west of the city. Near by are celebrated hot springs supplying the Broadwater Hotel and Natatorium—the latter the largest in the world. A university under the auspices of the Methodist Church is just north of the city. The Roman Catholic Cathedral of this diocese and St. Vincent's Academy are located in Helena. The city has excellent public and private schools and seventeen churches. Marysville is a large gold quartz mining town and one of the most prosperous in the State, with large producing mines tributary. Lump, a prosperous young silver center, is in Jefferson County, near Helena. There are other productive mining camps in the county. Among the minerals of the county are gold, silver, copper, lead and coal. Lewis and Clarke County is the largest gold producing county in the State, the greater product being at the Drum Lummon and other mines in or near Marysville.

The county is skirted by heavy mountain ranges, but has some large and productive agricultural valleys. The Prickly Pear valley, adjacent to Helena, is a large and fertile basin, and in the northern part of the county, extending up to Sun river, the Dearborn and other streams water large and productive areas. The valleys range in elevation from 3,400 to 4,200 feet. The soil in the southern part is a sandy loam, running to clay in the northern part, and varies from a few inches to ten or more feet deep. The lands require irrigation. Some along the river bottoms are cultivated without, but it is uncertain farming. All kinds of grain, grasses, vegetables and root crops are cultivated successfully. The average snowfall is about one foot. The principal markets are at Helena, East Helena and Marysville, and for the northern part of the county at Great Falls. Fencing and fuel are obtained in from one to twenty miles of the farms: Lumber sells at from \$12 to \$15 and brick \$8 to \$10 per thousand. Water is reached in wells at from five to sixty-five feet. It is estimated there are 180 square miles of farming land now irrigated, and 250 square miles of tillable lands not yet irrigated. The Dearborn Canal company (Donald Bradford, Helena, President) and the Florence Canal company (Kleinschmidt Bros., Helena, proprietors) are large enterprises organized for the purpose of taking out irrigating waters and reclaiming arid lands in the northern part of the county.

Fairly improved farming lands, with water rights, can be purchased on the Dearborn and Sun rivers for from \$7 to \$10 per acre, and in the Prickly Pear valley from \$60 to \$200 per acre. Aside from mining and industries in the larger places, it is stated there are good opportunities for creameries, diversified farming, etc.

Among those who may be applied to for further information are: Paul S. A. Bickel, H. B. Palmer, Walter Matheson & Co., Herbert B. Reed & Co., Miller & Barden, Wm. Muth, Donald Bradford, Helena; and Elizur Beach, Augusta.

MADISON COUNTY.

The area of Madison County is 4,250 square miles. Virginia City, the county seat, was formerly the capital of the Territory of Montana. It is not reached by any railroad yet, but can be reached by staging fifty-five miles from Dillon on the Union Pacific system. Branches of the Northern Pacific system reach Norris and Pony, from whence stages also run to the county seat. Other railroad lines are contemplated and partially constructed. Virginia City has now a population of 500 to 600, and the county about 6,600. Virginia City is located in Alder Gulch, which was discovered in 1863, and is estimated to have yielded to the present time from \$80,000,000 to \$90,000,000 in placer gold. It is about seventeen miles long and was probably the richest gulch ever discovered. Considerable placer and quartz mining is still done there. Other principal points in the county are Sheridan, Twin Bridges, Pony and Gaylord, at which latter place the new Parrot smelters are being erected. The State Home for orphans, foundlings and destitute children is located at Twin Bridges. The county is about two-thirds mountainous, the remainder large, fertile valleys, bench lands and foot hills.

Gold, silver, copper, iron, lead and coal are found in the county, and mining for the precious metals is the principal industry. Very promising mines are being opened of late years and Madison County is regarded as one of the very best gold quartz mining counties in the State. Prominent among the valleys are the Ruby, Madison, Willow Creek and Jefferson. Their elevations range from 4,100 to 5,500 feet. The soil of the bottom lands is generally a deep black loam in the bottoms, and on the bench lands a sandy loam with clay subsoil. It varies from a few inches to five or six feet deep. Except in rare instances on high uplands all lands require irrigation for successful cultivation. All the grains, grasses, vegetables, potatoes and other root crops grow well. There is a great deal of very fertile soil in the county. All small fruits are raised successfully, and considerable quantities of hardy apples are grown with some plums, grapes, etc. It is stated they do best near the base of the mountains, in sheltered localities. There are good local markets in the towns and mining camps. Grain and hay are sometimes marketed in Butte and Dillon. There are large areas of pasture lands and stock raising is generally combined with farming. Puller's Hot Springs, eminent for their medicinal qualities, are situated near Virginia City.

Farmers generally obtain fuel and fencing in from one to ten miles of the farms. Lumber sells at from \$13 to \$15 and brick at \$8 per thousand. Water is obtained in wells at from four to fifty feet. Most of the lands where water is available for irrigation have been taken up. There are stated to be lands on the Jefferson and Madison benches which large irrigation ditches would reclaim, but it would be quite expensive. It is believed, aside from mining, there are inviting fields in the county for industrious incoming farmers prepared to do most of their own work, and that creameries, an oat meal mill, woolen mill and other manufactories that could utilize the abundant water power would be remunerative.

Fairly improved lands with water rights can be bought at from \$6 to \$30 per acre in nearly all valleys, the absence of railroads communication holding many lands below their actual value.

Among those who may be applied to for further information are: W. J. Foreman, assessor, Virginia City; M. H. Lott, Newton Orr, Twin Bridges; Joseph J. Boyer, Pony.

MEAGHER COUNTY.

Meagher County contains an area of about 6,640 square miles. It was named in honor of General Thomas Francis Meagher, who was for some years Secretary of Montana. White Sulphur Springs, the county seat, is not at present reached by railroad, but is reached via Townsend, on the Northern Pacific railroad, 1,096 miles west of St. Paul. Branches of the Great Northern system of railroads from Great Falls reach Neihart and Barker, important mining points in the northern part of the county. The Valley railroad, now under construction from Helena, is expected to give railroad communication to Castle, a large mining camp, and perhaps White Sulphur Springs and other points, this year. The population of White Sulphur Springs is about 1,000; of the county about 5,300. The Sulphur Springs at the county seat are notable medicinal waters, and despite the difficulty of reaching them attract and benefit many invalids.

The county contains gold, silver, copper and lead mines, a number of which, notably at Neihart, Barker and Castle, have been developed as large producers. In the placer mining days Confederate and Cave Gulches were fabulously productive of gold. The leading industries of the county at present are stock and wool growing and agriculture. Three-fourths of the county is grazing land, with 300 square miles of tillable land not yet irrigated; the balance is mountainous, timber and mineral lands. In 1894 there were 23,830 head of stock cattle and 269,613 head of sheep assessed in the county. It is the second largest sheep growing county in the State, and it is one of the largest exporters of wool, mutton sheep and beef cattle. The principal farming valleys are the Missouri, Musselshell and Smith River. Their elevations range from 4,000 to 5,200 feet. The soil is generally a sandy loam from seven inches to seven feet in depth, and is a great producer of all grain, grasses, vegetables and root crops. The agricultural production is limited in most of the valleys at present, but with better railroad facilities, revived mining industries and access to markets it will be greatly increased. Small fruits are raised everywhere, and standard apples, plums and cherries are grown in the Missouri and Musselshell valleys. The principal agricultural markets are now at Neihart, White Sulphur Springs and Townsend. The latter is a large wool shipping point. Some products are shipped to Helena. Beef and sheep are shipped to Chicago, and wool principally to Boston. Farmers obtain fuel and fencing in two to ten miles of their farms; lumber sells at \$10 to \$15, and brick at \$8 per thousand. Water is obtained in wells at from six to fifty feet. The snowfall ranges from ten to fifteen inches.

The lands with easily available water rights are mostly taken up, but large canals would reclaim some productive areas in the Missouri valley. Fairly improved lands with water rights can be purchased at from \$8 to \$25 per acre. Stock growing is generally combined with farming.

Among those who may be applied to for further information are: Sutherlin Bros., Allen Pierse, James Job, White Sulphur Springs; J. A. McNaught, Martinsdale; Job Thompson, Sr., Townsend, and Wm. Tierney, Neihart.

MISSOULA COUNTY.

Missoula is one of the oldest and extreme western counties. Until 1893 its area was 18,550 square miles. In that year Flathead County was established from the northern, and Ravalli County from the southern portion, leaving about 7,150 square miles in Missoula. Missoula, the county seat, settled in 1860, is 1,254 miles west of St. Paul on the Northern Pacific railroad, and 655 miles east of Tacoma. It has an estimated population of 4,500 to 5,000 and the county about 10,000. The city has a United States Land Office, the State University, and all other institutions of a progressive city. It is eastern terminus of the Cœur d'Alene branch railroad, a short line by rail to the Cœur d'Alene mines and by rail and steamer to Spokane. It is the northern terminus of the Bitter Root branch railroad, which traverses the fertile valley of that name. Extensive railroad shops and a Northern Pacific hospital are located at Missoula. There

are 315 miles of railroad in the county. Fort Missoula, garrisoned by United States troops, is located four miles from the city, which has numerous churches, schools, banks, mercantile institutions and attractive public and private buildings. Educational and church facilities are good in the county.

The county has important and diversified resources, principal among which are agriculture, stock growing and mining. There are large and productive silver mines, good placer mines and fire clay deposits in the county. It consists largely of mountainous lands covered with heavy forests of pine, fir and tamarac, and lumbering is an important industry. Many millions of feet are cut and marketed annually to supply the great mines and works at Butte, Helena, Anaconda and other points. One of the largest saw mills and manufactories in the State, the Blackfoot Milling Company's, is located at Bonner, and there are a number of others in the county.

Among the larger agricultural valleys are the Missoula, Flathead and the Jocko (the latter within the Flathead reservation,) with numerous tributary valleys. Their elevations range from 2,400 to 3,200 feet. Irrigation is generally necessary, but some of the river bottoms and the foot hills skirting the mountains are cultivated successfully without. The pine timber in many places extends into the valleys. Fishing and hunting are excellent. There is more rainfall, and the low altitude, forests and shelter give a milder climate and longer growing seasons, than in the country further east. The snowfall in the valleys ranges from eight to twelve inches. The soil varies from a rich black in the valleys to a sandy loam on the uplands, and ranges from twelve inches to five feet deep. All kinds of grain, grasses, alfalfa, vegetables and root crops yield abundantly. There are flouring mills at Bonner, Missoula and Frenchtown, and an oat meal mill at Missoula. All the small fruits and standard apples, pears, cherries and plums are grown, this county and Ravalli being up to this time the principal fruit producers of the State. The first fruit trees in the State were set out on the Tiplo ranch near Frenchtown in 1866, and regarded generally as a rather fanciful experiment. Fruit and vegetables are among the best paying crops. The principal local markets are at Missoula, Bonner, Frenchtown and Plains in the county. Many farm, garden and orchard products are shipped to Butte, Helena, Anaconda and Wallace. Fuel and fencing timber are generally close by farms. Lumber costs \$7 to \$8 and brick \$8 to \$10 per thousand. Water is obtained in wells at twenty to twenty-five feet. There are good grazing areas for small bands of stock convenient to most farms, and excellent opportunities for diversified farming of small tracts. There are stated to be areas of tillable lands yet open to settlement where water could be diverted at small expense, and fertile bench lands where large canals could be taken out to reclaim them and make good return on the investment. There also stated to be excellent opportunities in the county for industrious, frugal incoming farmers who will do principally their own work. Fairly improved lands can be purchased at \$7 to \$50 per acre. It is believed there are good opportunities for creameries, starch, beet sugar, cheese, woodenware and pork packing factories. An oat meal mill has been recently established at Missoula making a superior product.

Among those who may be applied to for further information are: C. W. Berry, Alfred Cave, Geo. F. Brooks, J. R. Latimer, Missoula; J. E. Marion, Frenchtown; John W. Leigh, Thompson Falls; J. A. McGowen, W. J. Rowley, Plains.

PARK COUNTY.

The area of Park County until the present year was 5,558 square miles, but the recent Legislative Assembly established Sweet Grass County and Carbon County, taking the territory therefor largely from Park County, so that its present area is about 2,900 square miles. Livingston, the county seat, with a population of 2,500 to 3,000, is 1,007 miles west of St. Paul, on the Northern Pacific railroad. The branch line to the Yellowstone National Park, fifty-one miles long, diverges here and runs to Cinnabar, almost the entire travel to the World's Pleasure Ground passing through Livingston. There are large railroad shops, employing considerable numbers of men, located at Livingston. It is an enterprising, substantial young city, with good school and church facilities, well established banks, commercial houses, etc. A stage line runs through to White Sulphur Springs, and it is the outfitting point for Cooke City and other mining camps in the county. Cokedale, Cinnabar and Horr are all important points. There are great silver and lead mines at Cooke City and a railroad to that point would develop an important mining region. There are gold mines at Emigrant Gulch and other points. Cokedale and Horr produce large quantities of excellent coal, and a large proportion of the coke consumed in the State is manufactured at these places from the product of the mines. Large numbers of cattle and sheep are grown in the county. A very considerable part of it is mountainous and mineral lands, and it is one of the most picturesque regions of the State. Fishing and hunting are excellent. The Yellowstone and Shields rivers and Mission Creek valleys with their tributaries have some very fertile areas of agricultural lands to which attention has been more largely directed in recent years. The altitude of these valleys ranges from 4,300 to 5,200 feet. The land very generally requires irrigation to raise crops, but some areas along the foot hills have been successfully cultivated without. All the grains, grasses, alfalfa, vegetables and root

crops are grown successfully. Small fruits are grown in all the valleys and sheltered places along the Yellowstone are doubtless adapted for standard apples. The soil is sandy loam, ranging from one to ten feet deep. The snowfall in the lower valleys is light, increasing in the higher valleys. Livingston, Cinnabar and Cokedale are the principal markets for farm products. It is believed the area of cultivated lands could be largely increased in the Shields river valley and other localities. Early appropriations along the larger streams took water from the smaller tributary streams in many localities and left the main stream untouched. By taking their irrigating ditches from the larger stream there would be much water left available from the smaller ones higher up for lands now without water, and in some cases this is being done. Some large canals have also been taken out, or are projected. Farmers obtain fuel and fencing one to ten miles from the farms. Lumber sells at \$13 and brick at \$9 per thousand. Water is usually obtained in wells at five to thirty-five feet. There are good ranges for small bands of stock adjacent to the farming valleys.

The county is believed to offer a good field for incoming farmers who will largely do their own work, as those who farm thus prosper. A flouring mill, woolen mill and creamery at Livingston are among industries mentioned as affording opportunities for profitable investment.

Among those who may be applied to for further information are: S. L. Holliday, County Treasurer, Charles Tappan, John L. Locke and Z. H. Daniels, County Assessor, Livingston.

RAVALLI COUNTY.

The area of Ravalli County is 2,889 square miles. It is one of the extreme western counties of the State, and was created from the southern part of Missoula County in 1893. Stevensville, the county seat, is 1,282 miles west of St. Paul via Missoula on the Northern Pacific railroad. The population of Stevensville is 500 to 700. Hamilton, the principal town, has a population of 800 to 1,000. Other principal points are Corvallis, Darby and Victor. The first white settlement in Montana was at Stevensville, then known as St. Mary's Mission. Father De Smet located there in 1842, established the Mission and cultivated the first grain in Montana. Father Ravalli, who greatly endeared himself to the people by many years of faithful ministrations, succeeded him at a later day, and the county was named in his honor. The principal valley is the Bitter Root, the river flowing north through the center of the county. It has a number of tributary valleys. It is sheltered on the west by the Bitter Root Mountains, which extend far into Idaho, and are covered by the finest pine, fir and tamarac forests in the Rocky Mountains. The Bitter Root valley is in climate, fertility and picturesque mountain scenery probably the most beautiful and attractive in Montana, the mountains on the western side rising abruptly from the valley in rugged grandeur. The county has a lake of ideal beauty, a number of hot mineral springs, and hunting and fishing are unexcelled.

The elevations of Bitter Root and principal tributary valleys range from 3,250 to 4,000 feet. The soil is a black loam varying in depth from one to eight feet. All the grains and grasses, including alfalfa, and all vegetables and root crops grow as in a garden. Irrigation is general although some of the river bottoms are cultivated without it. Some less hardy varieties of garden products, shrubbery and flowers that require careful nurture in the higher counties grow vigorously here. Bitter Root farmers had many years of hard times before railroads were constructed, but the county is now among the most prosperous in the State, and the area of cultivated lands is being continuously extended. Ravalli is essentially the fruit county of Montana. It has been cultivated here for nearly thirty years; the better varieties and methods have been learned and it is becoming one of the most important industries. Apples, plums, pears, cherries and grapes are produced in large marketable quantities, and even peaches are successfully grown. Of course all small fruits grow abundantly. The orchard area is large and rapidly increasing. A Fruit Growers association has been organized and the exhibit under its auspices last year was amazing. Large sample lots from this exhibit were afterwards displayed in different cities and the fruit was pronounced by competent judges the finest they had ever seen in any state. Special mention is made of this resource as Montana imports enormous quantities of fruits. The quality of the Ravalli and Missoula County fruit is unexcelled and commands higher prices than the imported. All Montana is a market for it. It is one of the best paying products and the orchard area in favorable localities should be many times increased. There are very many excellent agricultural and stock farms in the county, the Marcus Daly horse and agricultural farms near Hamilton being the best stocked and improved farms in the State. It is stated there are limited areas on the foot hills where water could yet be appropriated, and capital could divert waters from the Bitter Root to large arid areas and reclaim them. The average snow fall in the valleys is about one foot. Fuel and timber is obtained on, or from one to five miles from the farms. Lumber and brick sell at \$8 to \$10 per thousand. Water is obtained in wells at six to forty feet. There is believed to be a good field in the county for industrious incoming farmers and for a creamery, evaporator, starch factory, woolen mill and other industries. Improved lands with water rights sell at \$25 to \$50 per acre.

Ravalli County contains gold, silver and copper mines, some of which have been developed

and produced largely. The lumber industry is immense. The Bitter Root Development Company has the largest producing saw mill in the State at Hamilton and great numbers of men are engaged in the forests and at the mills. The product is principally shipped to Butte and Anaconda.

Among those who may be applied to for further information are: J. W. Lancaster, John B. Catlin, Robert Nelson, Stevensville; Geo. A. Matthews, Hamilton; W. B. Harlan, Como; G. W. Solleder, Darby; W. H. Steele, Grantsdale.

SILVER BOW COUNTY.

The area of Silver Bow County is 915 square miles—least, but greatest. A stream sweeping in majestic curve through the broad valley south of Butte, and glittering like burnished silver as, from an eminence, it flashed in view of a party of early day prospectors, suggested to them the name that was applied to stream, camp and county. Butte, the county seat, is 1,121 miles west of St. Paul, on the Northern Pacific railroad. The population is estimated at over 35,000, the largest of any city in the State. Walkerville, Meaderville, Centerville, Burlington and South Butte are to all intents and purposes a part of the city, electric and cable lines affording speedy transit, and the greater part of the population of the county is concentrated in and about it. Butte is the mining and business center of Montana. It has five transcontinental or branch line railroads, being reached by the Northern Pacific, Great Northern and Union Pacific systems. The area in and around Butte lays unchallenged claim to being "the richest two thousand acres in the world." Within this area, lying easily accessible on gently rounded hills, is a perfect network of mineral bearing quartz veins that yield annually ores producing \$25,000,000 to \$30,000,000, and that not only support the city of Butte, but directly and indirectly give employment and recompense to many other thousands. It has been estimated by competent authority that in 1894 there were employed in the copper mines of Butte 5,000 miners; in the silver mines 500 miners; in the reduction works in and about the city 1,000 laborers, and in industries attendant on the production of the metals about 1,500 employes. The value of the product of Silver Bow County, and Butte is practically Silver Bow County, for 1894, is given by the United States Assay Office as follows: Copper, \$16,667,495; silver, \$9,775,999; gold, \$760,062; a total of \$27,203,556. It is estimated that this year, 1895, ten per cent more miners are employed than in 1894, that the product of copper will be increased at even a greater percentage and that the output for every day will exceed \$80,000. The total product of Butte from 1881 to and including 1894 is computed by Geo. W. Irvin, Esq., at \$233,000,000, and from the placer discoveries to 1881 about \$10,000,000 additional. Butte well deserves the title "The Greatest Mining Camp on Earth." The first copper discovered in the State was found there, and although for many years after attention was principally directed to gold and silver mining, the greater product of the camp is now copper ore which carries a large by-product of gold and silver. Nearly all the silver and gold capped veins have run principally into copper. The quartz mines of the camp have been worked industriously for twenty years, latterly with gigantic machinery and the most approved appliances, yet so enormous are the deposits that they are practically inexhaustible, and the deepest working, and that in but one mine, has only reached about 1,500 feet. There are more than 4,000 patented mines in the district. Enormous hoists, great reduction works and locomotives climbing the hills to the ore bins, all consuming vast quantities of coal, the crowds of workmen and the busy hum of industry by day and by night give Butte the semblance of a great manufacturing city; and so it is. But the products rust not nor decay; they are as marketable as coin over every bank counter from Silver Bow to Lombard street, and supply immense vital energy to the business and commercial activities of the State, the Nation and the World. It is impossible here to enter into details of the resources, productions or municipal institutions of Butte. The State School of Mines is located there. It has six banking institutions, excellent schools and churches, and is fully abreast of the times in all that an intelligent, virile, wealthy and progressive people can achieve for public or personal welfare and comfort, and affords opportunities unexcelled if equalled on the continent for those who are competent and able to engage in mining and kindred enterprises.

But little of Silver Bow County is adapted to agriculture. It is chiefly mountainous. There are some valley lands, but they generally lie at elevations of 5,100 to 5,500 feet, and hay is the leading and most remunerative crop. The soil is sandy loam, and where not too frosty produces good grain and vegetables. Fuel and fencing timber is convenient, and there are fair grazing facilities near most ranches. Lumber sells at about \$12 and brick at \$8 per thousand. The county does not offer much opportunity to agriculturalists, although the market is unequalled. But for mining capitalists or operators, for enterprising and sagacious business men; for those who are equal to and equipped for the business activities of the mining industry and a great mining city there is no field in the State equal to Butte. The mining industry is of such a nature that those contemplating engaging in it would of necessity have trusted correspondents, or investigate its opportunities in person or by agent, and hence no residents are referred to.

SWEET GRASS COUNTY.

Sweet Grass County was organized in 1895 out of Park, Yellowstone and Meagher counties, taking its name from a principal stream and a native grass. Its area is about 3,000 square miles. Big Timber, the county seat, is 973 miles west of St. Paul on the Northern Pacific railroad. Its population is estimated at 600 to 800, and that of the county over 3,000. Big Timber is an important railroad point for the shipment of cattle and wool, the shipment of wool reaching 3,000,000 pounds annually. It is a convenient point from ranges north. The county is finely watered. The northern two-thirds is chiefly excellent grazing and agricultural lands with the southern third predominating in mountainous timber lands. Gold, silver, copper and other metals are found in the Boulder, Deer Creek and Natural Bridge districts, but little attention has as yet been given to mining. The farming valleys are mostly on the Yellowstone, Big Timber, Sweet Grass, Boulder and their tributaries. Their elevation ranges from 3,600 to 4,500 feet. The soil is generally a sandy loam, some places gravelly, and varies from ten inches to ten feet in depth. Residents of the county assert it equals the Gallatin valley in fertility. Until recently attention has been principally directed to stock growing, but farming has lately developed materially and all grains and grasses, including alfalfa, yield excellent crops. Alfalfa is cut three times in the season, yielding in the aggregate five or six tons per acre. Vegetables and root crops are very productive, and small fruits grow well. Orchardng has only recently been tried; trees are doing well. Irrigation is deemed necessary, in all parts of the county. Farmers generally procure fencing timber and fuel in three to ten miles of farms. Lumber costs \$12 to \$18 and brick \$10 to \$20 per thousand. Water is obtained in wells at twelve to thirty five feet. The snowfall is light. It is estimated less than one tenth of the tillable lands are irrigated. The reports of residents are cumulative that there are still considerable areas of unappropriated lands in the county on which water can be diverted at moderate cost by individuals, and that there are large areas of bench lands where larger canals would recompense capital in diverting water. The Hatch ditch, near Big Timber, is an enterprise of this nature being completed this year. It is stated the county presents excellent opportunities for industrious incoming farmers with some means who propose to do their own work to engage in diversified farming. Good ranges are convenient to farming lands and stock growing and farming can be advantageously combined. Most of the agricultural products are sold at Big Timber, Melville and other points in the county. Hay has been shipped to Butte and Helena, and potatoes to St. Paul and Chicago. Fairly improved farming lands with water rights can be purchased in different parts of the county at \$7 to \$10 per acre.

It is stated there are good opportunities for a flouring mill, woolen mill and packing house at Big Timber. There is a fine water power available for electrical conversion at Natural Bridge, twenty-five miles from Big Timber. Hunter's Hot Springs, celebrated for their curative properties in rheumatism and nervous diseases, are two and one-half miles from Springdale, on the Northern Pacific railroad and have good hotel facilities.

Among those who may be applied to for further information are: J. A. Hall, Joseph W. Bailey, S. Jarrett, Chas. Brown, A. G. Hatch, E. O. Clark, Big Timber; Benj. Urner, Jr., E. & E. Adam; W. P. Franklin, O. B. Nevin, Melville, G. A. Loasby, McLeod.

TETON COUNTY.

The area of Teton County is estimated at 7,900 square miles, of which perhaps a third is covered by the Blackfeet Indian Reservation; estimated population of the county about 2,700. Choteau, the county seat, population about 500, is off the railroad lines, but the county is traversed east and west by the Great Northern railroad, and 114 miles north and south by the Great Falls & Canada railroad, which intersect at Shelby Junction, 1,068 miles west of St. Paul, on the Great Northern railroad. The western part of the county is mountainous and the eastern part largely valley and undulating lands. It has always been largely a grazing area. In 1894 there were 17,489 head of cattle and 166,691 head of sheep assessed in the county, and 109,191 acres of assessed land. It is estimated there are 150 square miles of tillable lands not yet irrigated, and the remainder of the county except the mountains, is chiefly adapted to grazing purposes.

Of the minerals in the county coal and iron are the principal yet discovered. There are considerable areas of pine and fir timber in the western portion. The leading productions of the county are cattle, sheep, wool, horses and some agricultural products.

The elevations of the farming valleys range from 3,000 to 4,000 feet. The soil varies in depth from one to six feet, and from a sandy to a gravelly loam. Wheat, oats, barley, rye, flax, alfalfa and all the grasses, vegetables and root crops have been and are being cultivated successfully. All small fruits are grown, and in some localities apples. The depth of snowfall ranges generally from twelve to twenty inches, but chinooks are frequent. Irrigation is everywhere necessary for cultivation. Hay, oats and barley are considered the best paying crops and are marketed at Choteau, Great Falls and other points. Great Falls will always make a good mar-

ket for Teton County products. Fuel and fencing timber are obtained from one to forty miles from farms, and water in wells at five to seventy-five feet. Lumber costs about \$18 and brick about \$12 per thousand. There are good ranges for small bands of stock near all the farms, and it is believed there is a field for industrious, frugal incoming farmers who expect to do principally their own work, to do well on owned or leased lands. The Montana Land and Water Company (Z. T. Burton, Manager, Burton, Mont.) has brought out a canal with a capacity of 12,000 inches from the Teton river and has already reclaimed an area of 10,000 acres. Some 6,000 acres of this, with perpetual water rights, have already been disposed of to settlers who have come principally from Minnesota, and who have colonized and are cultivating these lands. There are other large tillable areas on which capital can bring out unappropriated waters from the larger streams and reclaim them. A flouring mill is already needed at Burton, and the settlement of the county and cultivation of its lands will develop opportunities for other industries.

Among those who may be applied to for further information are: John J. Miller, Shelby Junction; J. E. Wamsley, Arthur T. Goodspeed, Choteau; George W. Magee, Dupuyer; Z. T. Burton, Burton.

VALLEY COUNTY.

Valley County was established in 1893 by detaching and organizing as a separate county all that portion of Dawson County lying north of the Missouri river. Its estimated area is 13,486 miles, a portion of which is within the Fort Peck reservation. Glasgow, the county seat, is 810 miles west of St. Paul on the Great Northern railway, which traverses the county east and west 204 miles. It is an important railroad town and headquarters for stockmen. Estimated population of Glasgow 500; of the county 1,500. Other principal points are Malta, Nashua, Hinsdale, Culbertson and Poplar. The greater part of Valley County is grazing country, with a number of valleys lying along the Milk river, Poplar river, Big Muddy and their tributaries. The elevations of these valleys range from 2,000 to 3,000 feet. The principal industry of the county has been and will probably continue to be stock growing, and the revenues derived therefrom are very large. In 1894 there were 9,999 head of horses, 31,636 head of stock cattle, and 264,134 head of sheep assessed in the county, it being the third largest sheep growing county in the State. Notwithstanding its grazing capabilities considerable areas of the eastern part of the county are stated to be exceptionally well adapted for agriculture, and the amount of tillable lands that can yet be irrigated is estimated at 280 square miles. Not over ten square miles are now irrigated and cultivated. Some areas along the river bottoms in the eastern part are now cultivated without, but here as elsewhere in the State, certainty of crops and largely increased productions depend on irrigation. The soil of the valley is generally a black loam, varying in depth from one to three feet, that produce good crops of grains, grasses, vegetables and root crops, and some correspondents state corn is successfully cultivated. The average snowfall is light—four to eight inches. Wood is plentiful along the streams and usually within a short distance of farms. The price of lumber ranges from \$8 to \$20, and brick \$6 to \$10. Water is usually obtained in wells at ten to fifty feet. There are good stock ranges adjacent to all farming areas. Farming and stock raising may be advantageously combined. Residents of the county state the county offers good opportunities for industrious farmers with some means to start, and there are considerable areas where large irrigation or storage enterprises would pay. The Montana Irrigation and Land Company (Dr. M. D. Hoyt, Glasgow, secretary,) has organized to irrigate and reclaim 20,000 acres near Glasgow. W. E. Enos, of Nashua, writes: "A large number of farmers could do well by taking up farms along the Missouri river. It is good soil. Wood and good ranges convenient. Almost any grains, grasses and vegetables can be raised." Thos. Cushing, of Culbertson, writes: "I have lived in the eastern part of this county twenty-five years and I like it. It is the healthiest country out doors. There is nothing to prevent a man from succeeding here if he will try, and combine farming with cattle raising."

It is not ascertained that any improved lands are offered for sale, but settlers can obtain unappropriated lands. There are still considerable unappropriated waters and fine opportunities for storage in which it is believed there is an inviting field for capital. It is also stated there are good opportunities for creameries, brick yard, saddlery and blacksmith shops and other industries at different points along the Great Northern railroad.

Among those who may be applied to for further information are: Dr. M. D. Hoyt, Chas. E. Hall, A. W. Mahon, R. X. Lewis, J. L. Truscott, A. J. McMillan, Glasgow; Harry A. Vagg, Saco; Thos. Cushing, Culbertson; W. E. Enos, Nashua.

YELLOWSTONE COUNTY.

In 1890 the area of Yellowstone County was 3,105 square miles. In 1892 the United States threw open to settlement 1,800,000 acres of the Crow Indian reservation and attached it to Yellowstone County. In 1895 approximately one-fourth of the county was detached to be incorporated with the new counties of Carbon and Sweet Grass. The population of the county

is about 5,000. Billings, the county seat, is 892 miles west of St. Paul, on the Northern Pacific railroad. It is also the present western terminus of the Chicago, Burlington and Quincy railroad, which there has western connection with the Northern Pacific railroad. Billings has a population of 2,000, and is an enterprising, progressive city with good schools and churches. It is an important cattle and wool shipping point, and has tributary to it a large agricultural country, including the Yellowstone and Musselshell valleys and lesser valleys. The Eastern State Prison is located at Billings. Great quarries of excellent sandstone are adjacent to the city. More than three-fourths of the county are grazing lands. The agricultural areas are fertile, and a large proportion has been irrigated and is very productive. It is estimated seventy-five to one hundred square miles have already been irrigated, and there are four times that area that yet may be. The elevations of the farming valleys range generally from 2,800 to 3,600 feet, and the soil varies from a sandy loam to clay and "gumbo," from a few inches to forty feet in depth. The soil generally requires irrigation for certain and productive cultivation. Corn and all grains, grasses, vegetables and root crops yield abundantly. Broom corn is successfully cultivated. Alfalfa, which on account of winter freezing is difficult to get "set" in some of the higher counties, does splendidly here, yielding as much as three crops in the season aggregating four to six tons per acre. All kinds of small fruits do well, and apples and grapes are grown. There are stated to yet be unoccupied areas of good, tillable land in the county on the Yellowstone, Musselshell and Lake Basin, where small ditches can be diverted at reasonable expense. Among the land and water companies known to have taken out large canals and sell or lease lands or water are the Minnesota and Montana Land and Improvement Company (I. D. O'Donnell, Agent, Billings), the Canyon Creek Ditch Company (C. M. Chaffee, Secretary, Billings) and the Italian Ditch Company (C. H. Smith, Secretary, Park City). These companies have supplied many settlers with lands and water. The officers named will furnish information on application. Fairly improved lands with water rights can be purchased at \$10, \$15 and \$25 per acre in the county, and there are stated to be excellent opportunities for small farmers who propose to do their own work anywhere they can obtain irrigated lands. What is called "intensive" and "diversified" farming, small areas well cultivated in rotating crops, is being intelligently promoted and developing very successfully in this county. The principal local markets are at Billings, Columbus, Laurel, Red Lodge, Park City and Junction. Hay and grain are also shipped to Butte, Helena and Anaconda, and vegetables as far east as St. Paul. Fencing and fuel are obtained one to ten miles from farms; lumber costs \$15 to \$18, and brick \$8 to \$10 per thousand. Water is obtained in wells at five to fifty feet.

It is stated there are opportunities for a woolen mill, flouring mill, linseed oil mill, packing house, creamery, cheese, canning factory and tile factory at Billings and other points in the county.

Among those who may be applied to for further information are those named above and H. W. Rowley, George Murr, Lampport & Dewar, Billings; C. O. Gruwell, Junction; L. A. Nutting, J. T. Sanford, Laurel; D. A. Benedict, Park City; P. Lavelle, Columbus.

While Montana imported in 1894 fully forty per cent of the flour consumed in the State, and had previously imported a much larger percentage, it was not from any fault of the wheat grown here. Forty years ago it was not believed wheat could be grown in Minnesota, and later the same skepticism prevailed regarding Dakota, yet these are now among the best wheat and flour producing regions in the world. History is repeating itself in Montana. The millers wait on the farmers and the farmers wait on the millers. Montana wheat is demonstrated to be equal to the best for flour making, and yields per acre, on an average, as shown by Montana and United States statistics, more bushels than any other state, and double of that of many of them. Lack of convenient milling facilities has retarded wheat growing. But the number and capacity of flouring mills is being rapidly increased, and the processes improved. The use of domestic flour is increasing and the area cultivated in wheat is correspondingly enlarged.

During the financial panic of 1893-4 there were less than three per cent of business failures in Montana and the total assets of those who failed were 70 per cent in excess of the total liabilities; that is, for every dollar of debt they had \$1.70 of property to pay it with. No other State in the Union made so good a showing in the United States statistics prepared by R. G. Dun & Co.

Very many of the horses, cattle and sheep of the State are graded up by the use of imported or high bred stock.

PRINCIPAL RIVERS AND OTHER IRRIGATING STREAMS, VALLEYS, ETC.

It is a practically true saying in the arid regions that "the water owns the land." And so, while Montana is one of the best watered States in the Union, it should be remembered nearly all its lands require irrigation for successful cultivation, and the value and availability of the land is dependent on the facilities for irrigating it. With the purpose of showing, if possible, the length, flow and diversion of streams in the State, also approximately the average width of the valleys through which they flow, a large number of printed forms for this and other information were sent to surveyors and other well informed persons in each county and statements solicited. Only a few streams have ever been measured at any stage of water. The request was therefore made to estimate the average flow in inches during the irrigating season of all streams flowing 500 inches or more. This would include high as well as low stage of water. In most counties there was great diversity in the estimates. In these cases preference has been given to the estimates of surveyors where given, or estimates have been averaged. In some counties it has been impossible to obtain complete lists within the time at disposal; in other instances the diverse estimates of the same stream in different counties were irreconcilable. The table is not, therefore, as complete and exact as desired, but approximate. It will be many years before exact measurements are had. The smaller and more easily diverted streams have been generally utilized in most farming valleys. There are yet large areas of fertile lands to which water can be diverted from the larger unappropriated streams by capital, and the efficiency of nearly all the smaller ones greatly increased by storage. This table should be considered in connection with details concerning the several counties on preceding pages.

COUNTY.	Length in County	Average Flow in Irrigating Season	Amount Now Diverted for Irrigation	Width of Its Valley	Flows Into.
Name of Stream.					
BEAVERHEAD.					
	Miles.	Inches.	Inches.	Miles.	
Beaverhead.....	30	30,000	30,000	2 to 4	Jefferson.....
Big Hole and Trib.....	100	30,000	n. r.	$\frac{1}{2}$ to 2	".....
Red Rock.....	35	12,000	6,000	2	Beaverhead.....
Black Tail.....	20	3,000	3,000	.....	".....
Rattlesnake.....	40	*n. r.	all	n. r.	".....
Grasshopper.....	50	n. r.	all	n. r.	".....
Birch Creek.....	15	700	700	"	".....
Horse Prairie Creek.....	50	n. r.	n. r.	"	Red Rock.....
Sheep Creek.....	50	"	"	"	".....
Sage Creek.....	25	"	"	"	".....
CARBON.					
Clark's Fork.....	50	60,000	7,000	1 to 5	Yellowstone R.....
Rocky Fork.....	45	40,000	12,000	1 to 3	Clark's Fork.....
Red Lodge.....	25	7,000	1,500	$\frac{3}{4}$ to 2	Red Lodge.....
Rosebud.....	25	15,000	1,000	$\frac{3}{4}$ to 1 $\frac{1}{2}$	Stillwater.....
West Rosebud.....	20	12,000	1,500	$\frac{3}{4}$	Rosebud.....
Stillwater.....	35	40,000	5,000	1	Yellowstone.....
Fish Tail.....	20	2,000	1,500	$\frac{3}{4}$	Rosebud.....
CASCADE.					
Missouri.....	97	200,000	n. r.	2	Mississippi.....
Sun.....	44	60,000	40,000	1	Missouri.....
Smith.....	43	.....	n. r.	$\frac{1}{2}$	".....
Belt.....	43	1,200	1,000	$\frac{1}{2}$ to $\frac{3}{4}$	".....
Big Otter.....	20	600	.....	$\frac{1}{4}$	Belt Creek.....
Little Otter.....	14	300	300	$\frac{1}{4}$ to $\frac{3}{4}$	Big Otter Creek.....
CHOTEAU.					
Missouri.....	200	250,000	n. r.	1 $\frac{1}{2}$	Mississippi.....
Marias.....	60	n. r.	"	1	Missouri.....
Milk River.....	200	"	"	2	".....
Teton.....	50	"	"	1	".....
People's Creek.....	45	5,000	5,000	$\frac{1}{2}$	Milk River.....
Clear Creek.....	30	4,000	4,000	$\frac{1}{4}$ to $\frac{1}{2}$	".....
Little Box Elder.....	32	3,800	3,600	$\frac{1}{4}$	".....
Big Birch Creek.....	35	4,000	4,000	$\frac{1}{4}$	Missouri.....
Snake Creek.....	30	2,200	2,200	$\frac{1}{4}$	Milk River.....
Bear Creek.....	30	4,000	4,000	$\frac{1}{4}$ to $\frac{1}{2}$	".....

PRINCIPAL RIVERS AND OTHER IRRIGATING STREAMS—CONTINUED.

COUNTY.	Length in County.	Average flow in Irrigating Sea- son	Amount now Irrigated for Irriga- tion	Width of its Val- ley	Flows Into.
Name of Stream.					
CUSTER.					
Yellowstone	Miles. 120	Inches. 220,000	Inches. n. r.	Miles. 3	Missouri.....
Rosebud	75	3,000	3,000	1	Yellowstone.....
Tongue	140	125,000	27,000	1½	"
Powder	140	50,000	1,800	2	"
Box Elder	40	10,000	none	5	Little Missouri
Little Missouri		50,000	"	4	Missouri
DAWSON.					
Yellowstone	100	230,000	n. r.	3	Missouri
Missouri	150	300,000	"		Mississippi
Beaver Creek	60	1,000	"		"
Glendive	50	600	"		Yellowstone.....
Cabin	10	800	800		"
Cedar	45	500	n. r.		"
All others		5,000	"		
DEER LODGE.					
Deer Lodge River	50	10,000	6,000	5	Hell Gate
Hell Gate	12	12,000	8,000	1	Missoula
Little Blackfoot	30	4,000	3,000	½	Hell Gate
Big Blackfoot	50	12,000	1,000	½	Missoula
Nevada Creek	30	2,000	1,500	1½	Big Blackfoot
Race Track	12	1,500	1,500	½	Deer Lodge
Warm Spring	12	1,500	1,500	1	"
Lost Creek	13	1,000	1,200	1	"
Cottonwood	12	800	800	1	"
Flint Creek	30	2,000	n. r.	4	Big Blackfoot
Montour	20	2,000	"		
FERGUS.					
Judith	100	30,000	30,000	1½	Missouri
Big Spring	25	15,000	5,000	1	Judith
Warm Spring	40	15,000	5,000	½	"
Flat Willow	100	1,000	1,000	1	Musselshell
Wolf Creek	60	1,000	1,000	1½	Judith
Careless Creek	18	500	500	2	Musselshell
FLATHEAD.					
Flathead River	240	150,000	none	1 to 15	Columbia River
Kootenai River	125	200,000	"	½ to 30	"
Swan River	80	30,000	"	5	Flathead Lake
Stillwater Creek	60	4,250	"	10	Flathead River
Whitefish Creek	50	5,000	300	8	"
Fisher Creek	30	1,000	none	¼	"
Tobacco River	40	8,000	"	4	Kootenai River
Ashley Creek	30	300	"	¼	Flathead River
100 smaller creeks	15	30,000	2,000		
GALLATIN.					
West Gallatin	100	30,000	n. r.		Gallatin River
East Gallatin	40	2,000	"	½	"
Gallatin River	8	32,000	"		Missouri River
Middle Creek	35	1,000	"		East Gallatin
Reese Creek	15	500	"	n. r.	"
Cottonwood Creek	10	500	"	"	West Gallatin
Churn Creek	n. r.	n. r.	"	"	East Gallatin
Madison River	20	"	"	"	Missouri
GRANITE.					
Rock Creek	55	12,000	2,000	½	Hell Gate
West Fork of Rock Creek	14	3,000	500	½	Rock Creek
East Fork of Rock Creek	12	3,000	500	½	"
Ross' Fork of Rock Creek	12	3,000	500	½	"
Willow Creek (upper)	12	2,000	1,500	½	"
Willow Creek (lower)	18	2,000	2,000	½	Bitter Root
Hell Gate River	35	18,000	12,000	3	Missoula
Clear Creek	18	4,000	2,000	n. r.	Flint Creek
Flint Creek	42	5,000	5,000	2	Hell Gate

PRINCIPAL RIVERS AND OTHER IRRIGATING STREAMS—CONTINUED.

COUNTY.	Length in County	Average Flow in Irrigating Season	Amount now Diverted for Irrigation	Width of its Valley	Flows Into.
Name of Stream.					
JEFFERSON.					
Boulder River.....	Miles. 50	Inches. 2,500	2,500	4 to 5	Jefferson.....
Crow Creek.....	30	2,000	2,000	10	Missouri.....
Prickly Pear.....	25	500	500	$\frac{3}{4}$ to 1	Ten Mile Creek.....
Pipestone Creek.....	15	400	400	$\frac{1}{2}$ to 2	Jefferson.....
Jefferson River.....	20	40,000	20,000	6 to 8	Missouri.....
Fish Creek.....	10	500	500	.....	Jefferson.....
Clancy.....	10	400	400	$\frac{1}{4}$	Prickly Pear.....
LEWIS AND CLARKE.					
Missouri River.....	30	130,000	n. r.	n. r.	Mississippi.....
Sun River and tributaries.....	250	60,000	19,000	1 to 5	Missouri.....
Dearborn and tributaries.....	100	30,000	2,500	$\frac{1}{4}$ to $1\frac{1}{2}$	".....
Little Prickly Pear.....	55	4,000	3,000	$\frac{1}{2}$ to 5	Ten Mile Creek.....
Big Prickly Pear.....	10	2,000	2,000	$\frac{1}{2}$ to 4	Missouri.....
Ten Mile and tributaries.....	60	1,500	1,500	$\frac{1}{2}$ to 12	".....
Seven Mile Creek.....	12	70	700	$\frac{1}{2}$ to 3	Ten Mile Creek.....
MADISON.					
Big Hole River.....	25	30,000	10,000	3	Jefferson.....
Jefferson River.....	30	n. r.	n. r.	4	Missouri.....
Beaverhead River.....	n. r.	30,000	15,000	10	Jefferson.....
Madison River.....	65	n. r.	15,000	7	Missouri.....
Ruby.....	80	"	All	7	Beaverhead.....
South Boulder.....	20	3,000	2,000	.....	Jefferson.....
Willow Creek.....	25	n. r.	n. r.	1	".....
Meadow Creek.....	20	"	"	$\frac{1}{2}$	Madison.....
Wisconsin Creek.....	12	2,000	2,000	.....	Jefferson.....
O'Dell Creek.....	10	2,000	1,000	.....	.....
MEAGHER.					
Missouri River.....	30	n. r.	n. r.	9	Mississippi.....
Musselshell.....	80	2,500	1,600	15	Missouri.....
Smith River.....	40	3,500	3,000	16	".....
Deep Creek.....	15	1,000	1,000	.....	".....
Confederate Creek.....	10	1,000	1,000	.....	".....
Duck Creek.....	12	800	800	.....	".....
MISSOULA.					
Missoula.....	150	90,000	15,000	3	Clark's Fork.....
Bitter Root.....	20	40,000	3,000	6	Missoula.....
Big Blackfoot.....	45	35,000	3,000	3	".....
Hell Gate River.....	30	30,000	3,000	1	".....
All others.....	300	30,000	7,500	.....	.....
PARK.					
Yellowstone.....	n. r.	150,000	20,000	$1\frac{1}{2}$	Missouri.....
Bear Creek.....	n. r.	"	n. r.	n. r.	Yellowstone.....
Emigrant Creek.....	15	1,500	1,500	.....	".....
Mill Creek.....	n. r.	"	n. r.	n. r.	".....
Mission Creek.....	"	"	"	"	.....
Shields River.....	"	12,500	"	"	Yellowstone.....
RAVALLI.					
Bitter Root.....	100	40,000	10,000	5	Hell Gate.....
Eight Mile.....	10	2,000	2,000	2	Bitter Root.....
Burnt Fork.....	10	5,000	5,000	3	".....
Skalkaho.....	10	5,000	5,000	2	".....
Willow Creek.....	10	3,000	300	2	".....
SILVER BOW.					
Big Hole.....	40	25,000	10,000	3	Jefferson River.....
Silver Bow.....	20	1,000	800	1	Deer Lodge.....
Divide Creek.....	12	500	500	$\frac{1}{2}$	Big Hole.....
Moose Creek.....	14	500	400	$\frac{1}{2}$	".....
Camp Creek.....	15	700	500	$\frac{1}{2}$	".....

PRINCIPAL RIVERS AND OTHER IRRIGATING STREAMS—CONTINUED.

COUNTY.	Length in County	Average Flow in Irrigating Season	Amount now Diverted for Irrigation	Width of Its Valley	Flows Into.
Name of Stream.					
SWEET GRASS.	Miles.	Inches.	Inches.	Miles.	
Yellowstone	40	185,000	n. r.	1½	Missouri.....
Sweet Grass.....	45	40,000	17,000	1	Yellowstone.....
Big Timber.....	27	30,000	15,000	¾	".....
Boulder River.....	54	25,000	13,900	1	".....
Stillwater.....	40	20,000	n. r.	1	".....
Fish Creek.....	27	10,000	4,500	½	Musselshell.....
TETON.					
San River.....	125	50,000	3,000	2	Missouri.....
Marias River.....	100	40,000	1,000	1	".....
Teton River.....	75	25,000	15,000	2	".....
Birch Creek.....	75	15,000	200	1	Marias.....
Dupuyer Creek.....	40	1,000	100	1	".....
VALLEY.					
Missouri.....	250	300,000	n. r.	n. r.	Mississippi.....
Milk River.....	150	8,000	"	8	Missouri.....
West Branch Poplar.....	80	1,000	"	¾	Poplar.....
East Branch Poplar.....	60	500	"	¾	".....
Big Muddy.....	80	300	"	¾	Missouri.....
Porcupine.....	60	n. r.	"	½	Milk River.....
YELLOWSTONE.					
Yellowstone.....	138	200,000	40,000	4	Missouri.....
Musselshell.....	50	25,000	7,000	1½	".....
Lake Basin.....	13	2,500	2,000	1½	".....
All Others.....		10,000	8,000		

* Abbreviation: "n. r.," no report.

NOTE.—The unit of measurement of water in Montana is what is known as the "Miner's inch." The number of inches of water flowing is ascertained by conducting the water into a box, or flume, usually 12 feet long, set level. At the discharging end a horizontal opening is made in the end board, and a head gate inserted so as to leave an opening of six inches between the bottom of the box or flume and the lower edge of the head gate. A slide, of sufficient width to close the opening left by the head gate, enters at the side. The water is to rise in the box three inches above the lower edge of the head gate, giving it that much pressure. The number of square inches in the aperture formed by the slide and head gate is the number of "inches" of water flowing, and ordinarily flows continuously, day and night.

The U. S. Census agents in 1890 estimated the average amount of water required to irrigate cultivated lands in Montana at one inch per acre for the season. It is believed the average for the State will exceed this, and is probably between 1¼ and 1½ inches. The efficiency of a given amount of water is greatly increased by irrigating hay lands, grain and root crops in succession. Much depends on the character of the subsoil, the rainfall, cultivation, frequency of warm winds, etc. A clay subsoil requires less water than a gravelly subsoil, and considerably more water is required when ground is first cultivated than afterwards. The charges of water companies for the use of water range from \$1.00 to \$2.50 per acre per year.

The cost of maintaining ordinary ditches, and "irrigating," that is, diverting the water over the fields in grain or other crops, is estimated to range at present prices for farm labor, at from \$1.00 to \$1.50 per acre for the season.

It was contemplated to give here some statistics of all land and water companies in the State having water for sale, but the reports were so incomplete they are omitted. Census Bulletin No. 153, relating to Agriculture and Irrigation in Montana, will be mailed free to applicants by this Bureau until the supply is exhausted.

ALTITUDES AND METEOROLOGICAL RECORD OF MONTANA.

ELEVATION (ABOVE SEA LEVEL) OF CERTAIN PLACES IN THE STATE.

County.	Place.	Au.	Feet.	County.	Place.	Au.	Feet.
Beaverhead.....	Bannack	c	5,896	Jefferson.....	Boulder	b	4,950
"	Dillon	d	5,104	"	Wickes Station..	h	5,280
"	Lima	d	6,265	"	Alhambra	h	4,265
Carbon	Red Lodge		5,726	Lewis and Clarke	Helena	b	4,118
"	Op. Laurel		3,253	"	Dearborn		3,416
Cascade	Great Falls	b	3,350	"	Angusta		
"	Fort Shaw	b	3,470	Madison	Virginia City....	g	5,824
Choteau	Assinniboine ..	b	2,690	"	Sheridan	c	5,321
"	Benton Station..	h	2,458	"	Parson's Bridge..	g	4,083
"	Chinook	h	2,404	Meagher	Forr Logan	b	4,700
Custer	Miles City	a	2,353	"	Maiden	a	4,707
"	Forsythe	a	2,512	"	Martinsdale	a	4,707
Dawson	Glendive	a	2,067	"	Townsend	a	3,800
"	Allard	a	2,299	Missoula	Missoula	a	3,195
Deer Lodge	Deer Lodge	a	4,546	"	Horse Plains	a	2,463
"	Anaconda	d	4,900	"	Jocko	a	2,507
"	Elliston	a	5,036	Park	Livingston	a	4,485
"	Garrison	a	4,295	"	Hor	b	5,179
"	Stuart	a	5,320	Ravalli	Stevensville	a	3,299
Fergus	Fort Maginnis ..	a	4,310	"	Hamilton	a	3,558
"	Philbrook	a	4,260	Silver Bow	Butte (C. H.)		5,758
"	Utica	a	4,420	"	Silver Bow Junc..	d	5,342
Flathead	Flathead Lake ..	e	2,840	"	Melrose	d	5,189
"	Calispel	h	2,946	Sweet Grass	Big Timber	a	4,070
"	Columbia Falls ..	h	3,098	Teton	Shelby Junc	h	3,276
"	Libby	h	2,055	Valley	Glasgow	h	2,092
Gallatin	Bozeman	a	4,752	"	Malta	h	2,252
"	Belgrade	a	4,435	Yellowstone	Billings	a	3,115
"	Gallatin	a	4,030	"	Pompey's Pillar..	a	2,869
Granite	Philipsburg	f	5,562				
"	Drummond	a	3,943				

Authorities: (a) N. P. R. R. Surveys. (b) U. S. Weather Bureau Stations. (c) De Lacy. (e) Pac. R. R. Reports. (d) U. P. R. R. Surveys. (f) B., A. & P. R. R. Surveys. (g) Hayden. (h) Gr. Nor. R. R. Surveys.

(A number of above are barometric measurements and in some instances are only approximate.)

ALTITUDE OF MOUNTAINS AND PASSES. *

	Feet.		Feet.		Feet.
Arrow Peak.....	7,420	Electric Peak....	11,158	Deer Lodge Pass	6,100
Blackfoot Mountain.	10,134	Emigrant Peak	11,034	Flathead Pass	6,769
Cabinet Mountain...	12,187	Mount Powell	10,500	Mullen Pass	5,980
Conical Peak	10,737	Mount Haggin	9,711	Madison Pass	6,911
Cowan Mountain	10,351	Mount Ellis	8,419	Pleasant Valley Pass..	6,030
Crazy Peak	11,178				

* A number of these are barometric measurements and are only approximately correct.

While not the purpose of these pages to advertise Montana as a resort for sportsmen it may be mentioned that in the mountain fastnesses mountain lions, bear, mountain sheep, ibex, moose, elk and deer are still comparatively plentiful or obtainable. The buffalo are exterminated. Antelope, elk and deer and smaller game are found in some parts of the more open country. Bear, mountain lion, wolves and coyotes are so plentiful that the state still pays a bounty for their destruction, as a protection to the stock growing interests. Small game, fur-bearing animals, game birds and wild fowl are plentiful.

MEAN TEMPERATURE AT HELENA, MONT., FOR EACH MONTH FROM 1880 TO 1894, INCLUSIVE. FROM RECORDS OF U. S. WEATHER BUREAU.

(Mean Temperature Expressed in Degrees.)

Years.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1880				36.8	48.3	58.7	66.7	63.7	56.7	46.3	19.3	9.0	45.0
1881	9.8	25.8	39.4	47.6	55.4	61.4	68.3	66.0	54.6	37.9	28.8	30.8	43.8
1882	20.0	24.4	31.1	40.5	50.4	60.7	66.8	71.4	60.1	41.7	30.9	27.3	43.8
1883	18.5	14.1	34.2	40.4	49.8	61.8	68.7	67.9	58.8	38.3	32.4	27.8	42.7
1884	11.6	14.6	29.1	41.6	53.9	62.9	62.5	66.8	49.7	47.0	36.4	7.0	40.2
1885	21.0	28.2	40.6	45.7	51.0	56.8	64.7	64.1	55.4	47.5	39.1	31.1	45.4
1886	10.0	34.5	21.9	42.9	54.9	61.1	69.9	68.1	52.9	43.3	29.4	27.1	43.6
1887	20.6	5.0	40.3	42.4	51.5	57.6	66.6	63.0	56.0	42.9	33.9	23.0	41.9
1888	5.3	35.0	23.2	48.8	50.1	58.8	67.1	65.3	61.2	46.6	24.2	23.6	41.3
1889	16.7	25.2	39.1	49.2	53.2	63.4	66.8	67.2	55.2	50.7	31.4	22.6	45.1
1890	7.2	16.8	35.3	45.6	54.0	58.9	70.6	66.8	57.4	46.2	37.4	30.2	43.9
1891	27.5	6.4	23.2	47.4	54.9	55.2	65.8	66.5	57.6	47.8	34.2	28.5	42.9
1892	21.2	32.4	36.2	40.0	47.7	57.6	65.0	66.0	60.8	47.3	36.8	24.7	44.6
1893	21.9	12.2	30.4	38.8	51.2	56.8	69.5	66.4	54.4	42.2	31.0	31.2	42.2
1894	18.7	16.3	30.6	45.2	54.8	59.0	69.0	70.4	54.0	46.8	41.0	24.2	44.2
Mean	16.4	20.8	32.5	43.5	52.1	59.4	67.2	66.6	56.3	44.8	32.4	24.5	43.4

NUMBER OF CLEAR, PARTLY CLOUDY, CLOUDY AND RAINY DAYS AT MONTANA STATIONS OF U. S. WEATHER BUREAU FOR YEARS 1892, 1893 AND 1894.

(In this Table each day on which there was one one-hundredths [0.01] of an inch, or more, of precipitation in the form of rain or melted snow, is rated as a "Rainy" day.)

STATIONS.	COUNTIES.	1892				1893				1894			
		Clear	Partly Cloudy	Cloudy	Rainy	Clear	Partly Cloudy	Cloudy	Rainy	Clear	Partly Cloudy	Cloudy	Rainy
Boulder	Jefferson	139	73	81	66	194	43	128	78	155	144	66	96
Bozeman	Gallatin	99	77	61	61	...	...	...	...	...	...	...	...
Choteau	Teton	...	...	...	32	...	...	...	53	...	...	...	...
Cokedale	Park	103	91	172	76	89	62	174	81	85	190	90	111
Deer Lodge	Deer Lodge	101	95	75	50	45	114	84	50	...	...	...	...
Fort Custer	Custer	...	...	...	9	...	...	...	39	...	...	...	80
Fort Keogh	Custer	...	...	...	51	...	...	...	43	...	...	...	45
Fort Logan	Meagher	...	...	...	47	...	...	...	56	...	...	...	...
Fort Missoula	Missoula	...	...	...	65	...	...	...	...	...	...	...	72
Glasgow	Valley	...	...	...	...	...	...	...	...	154	182	29	48
Glendive	Dawson	222	90	53	53	184	132	49	58	233	90	42	50
Great Falls	Cascade	93	191	82	71	108	134	123	91	148	110	107	82
Havre	Choteau	90	194	82	101	83	191	91	106	124	168	73	80
Helena	Lewis and Clarke	105	104	157	119	114	117	134	105	140	108	117	114
Hogan	Lewis and Clarke	178	95	67	56	203	67	95	63	...	...	...	...
Martinsdale	Meagher	98	135	73	83	81	187	97	94	99	186	80	109
Miles City	Custer	133	102	131	98	132	114	119	101	149	128	88	93
Mingusville	Dawson	...	...	...	...	104	50	61	12	141	129	86	35
Virginia City	Madison	107	79	145	51	105	136	124	87	116	146	103	83
Average	For all Stations	122	110	98	64	120	112	107	69	140	144	80	78

NOTE.—The Weather Bureau only reports totals of clear, partly cloudy, cloudy and rainy days from those stations reporting for every month in the year. At some of these in 1892 and 1893, the Record was not entirely complete in these respects, thus bringing the aggregate number of days below 365.

Nearly all streams and lakes afford good fishing for brook or salmon trout, grayling, garfish and other varieties, the kind differing according to locality. In some sections the fishing is probably unsurpassed in any inland country. Beside, in almost any locality a farmer may construct at small expense a fish pond and in two or three years supply his table bountifully with delicacies a king might envy.

PRECIPITATION (RAIN AND MELTED SNOW) AT HELENA, MONTANA, FOR EACH MONTH FROM 1880 TO 1894. FROM RECORDS OF U. S. WEATHER BUREAU.

(Precipitation expressed in inches and hundredths.)

Years.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1880.....				2.22	1.24	0.46	0.86	1.38	0.00	1.23	0.87	4.64	12.90
1881.....	2.86	0.51	0.00	1.55	1.60	3.51	1.95	1.78	2.49	2.04	1.27	0.38	19.90
1882.....	1.08	0.37	0.31	0.94	0.54	1.18	0.36	0.15	3.66	1.10	0.15	0.48	10.32
1883.....	0.57	0.73	0.73	0.53	1.54	1.74	0.32				0.66	1.02	7.84
1884.....	3.75	1.33	0.59	1.06	0.63	4.29	3.25	0.47	1.30	0.49	0.46	1.56	19.18
1885.....	1.31	0.82	0.28	1.00	0.85	4.46	1.16	0.48	0.11	0.16	0.15	0.21	10.99
1886.....	0.82	0.56	1.00	2.69	0.40	1.14	0.55	0.03	2.40	1.57	0.49	0.98	12.63
1887.....	1.35	0.61	0.12	1.93	2.41	3.48	0.27	1.86	0.50	1.01	0.32	0.29	14.05
1888.....	0.79	0.12	1.32	0.56	2.96	1.87	0.89	0.26	0.14	0.14	0.32	0.77	10.14
1889.....	0.42	0.72	0.64	0.11	2.20	0.40	0.34	0.31	0.48	0.14	0.77	0.18	6.71
1890.....	0.61	0.82	0.96	0.25	1.43	1.83	0.58	0.23	0.58	0.55	0.14	0.82	8.80
1891.....	0.31	1.68	1.37	0.76	2.51	4.67	2.73	1.02	0.72	2.40	0.82	0.40	19.39
1892.....	1.02	0.17	0.31	0.72	1.54	5.63	2.27	0.48	0.26	0.26	2.05	0.56	15.27
1893.....	1.72	0.58	0.14	2.31	3.04	0.82	0.86	0.46	2.69	0.84	1.44	0.58	15.48
1894.....	1.64	0.47	0.80	0.82	1.66	2.09	0.32	0.40	1.42	0.68	0.24	0.63	11.17
Average	1.30	0.68	0.61	1.16	1.64	2.51	1.11	0.66	1.20	0.90	0.67	0.90	12.98

LATE AND EARLY FROSTS, 1893 AND 1894.

Following are the dates of the last frost of spring and the first frost of autumn, at stations of the U. S. Signal Service in Montana, for the years 1893 and 1894:

STATIONS.	Last Frost, Spring.		First Frost, Autumn.		STATIONS.	Last Frost, Spring.		First Frost, Autumn.	
	1893	1894	1893	1894		1893	1894	1893	1894
Billings		May 9		Sept. 2	Havre	May 20	June 15	Aug. 27	Sept. 10
Boulder	July 14	May 17	Aug. 8	Sept. 4	Helena	June 5	June 10	Sept. 23	Sept. 24
Bozeman		May 10		Sept. 4	Hogan	May 26	July 1	Aug. 8	Sept. 13
Butte		June 14		Sept. 13	Kipp		July 2	Sept. 14	Sept. 3
Choteau	June 5	May 16	Aug. 8	Sept. 13	Martinsdale	June 5	May 16	Aug. 8	Sept. 9
Cokedale	May 26	May 16	Sept. 18	Sept. 16	Marysville		July 1		Sept. 13
Columbia Falls		June 30		Sept. 6	Miles City	May 22	May 10	Sept. 23	Sept. 22
Deer Lodge	May 26		Sept. 23		Mingusville	June 25	May 23	Aug. 8	Sept. 16
Fort Custer	May 20	May 10	Sept. 24	Sept. 10	Musselshell		May 10		
Fort Keogh	May 23	May 10	Sept. 24	Sept. 4	Pony		May 16		
Fort Logan	June 6	May 16	Sept. 22	Sept. 4	Red Lodge		June 13		Sept. 5
Fort Missoula	June 20	May 17	Aug. 14	Sept. 4	Utica		May 10		Sept. 13
Glasgow		May 10	Aug. 11	Sept. 9	Virginia City	June 21	June 14	Sept. 18	Sept. 13
Glendive	May 25	May 10	Sept. 19	Sept. 23	Wh. sul. Springs		July 4		Sept. 4
Great Falls	May 25	May 10	Aug. 8	Sept. 15					

COMPARATIVE RECORD OF CLEAR, CLOUDY AND RAINY DAYS.

From Published Reports of U. S. Weather Bureau.

LOCALITIES.	Year.	Cloudless Days.	Part. Cl'dy Days.	Cloudy Days.	* Rainy Days.
Montana Av. for 13 Stations.....	1892	123	127	116	61
Montana Av. for 17 Stations.....	1893	134	124	107	77
Montana Av. for 14 Stations	1894	141	144	80	78
Indianapolis, Ind.....	1892	95	128	143	266
Milwaukee, Wis.....	1892	108	140	118	229
Chicago, Ills.....	1892	97	136	133	145
New York, N. Y.....	1892	111	142	113	223
Philadelphia, Pa.....	1892	124	115	127	216
Portland, Me.....	1892	137	103	126	226
Portland, Ore.....	1892	95	144	127	260
St. Paul, Minn.....	1892	96	149	121	176

* Days on which there fell one one-hundredth (0.01) of an inch, or over, of rain or melted snow.

COMPARATIVE MEAN ANNUAL TEMPERATURE.

Following is given the Mean Annual Temperature, for the number of years stated, with altitude and latitude, at Helena and other places named, as reported by the U. S. Weather Bureau.

City.	State.	Latitude.	Altitude	Years record computed for	Mean annual temperature.
		Degrees.	Feet.	Years.	Degrees.
Helena.....	Montana.....	46.34	4,118	14	43.3
Portland.....	Maine.....	43.39	50	12	47.0
Albany.....	New York.....	42.39	130	11	48.4
Buffalo.....	New York.....	42.53	600	12	46.4
Chicago.....	Illinois.....	41.54	600	12	49.0
Milwaukee.....	Wisconsin.....	43.04	604	12	45.1
Duluth.....	Minnesota.....	46.48	672	12	39.8
St. Paul.....	Minnesota.....	44.56	800	12	44.0
Bismarck.....	N. Dakota.....	46.47	1,681	10	39.4
Denver.....	Colorado.....	39.45	5,281	12	49.3
Spokane.....	Washington.....	47.40	1,909	3	46.2

COST OF LIVING AT BOARDING HOUSES AND HOTELS.

(The rates of the higher priced Hotels are omitted from this table, it being the purpose to present Cost of Living such as would ordinarily be sought by immigrants.)

BOARD AND LODGING BY DAY, WEEK AND MONTH.

COUNTIES.	AT BOARDING HOUSES AND LOWER PRICED HOTELS.		
	Per Day.	Per Week.	Per Month.
Beaverhead.....	\$1 00 to \$2 00	\$6 00 to \$8 50	\$25 00 to \$35 00
Cascade.....	1 00 2 00	6 25 10 50	25 00 40 00
Choteau.....	1 00 1 25	5 00 7 00	20 00 27 50
Custer.....	1 00 1 25	6 00 7 50	25 00 27 00
Dawson.....	1 00 1 50	6 00 8 50	25 00 30 00
Deer Lodge.....	1 00 2 00	7 00 10 00	27 00 40 00
Fergus.....	1 00 2 00	7 00 10 00	27 00 40 00
Flathead.....	1 00 1 50	6 00 6 50	25 00 27 00
Gallatin.....	1 00 1 25	5 00 7 00	20 00 27 00
Granite.....	1 00 2 00	7 00 8 00	25 00 30 00
Jefferson.....	1 00 2 00	7 00 8 50	25 00 27 50
Lewis and Clarke.....	1 00 2 00	7 00 8 50	25 00 30 00
Madison.....	1 00 2 00	7 00 9 75	26 00 30 00
Meagher.....	1 00 2 00	7 00 9 66	26 00 37 00
Missoula.....	1 00 1 80	7 00 10 00	20 00 35 00
Park.....	1 00 1 60	6 10 8 50	24 00 36 00
Ravalli.....	1 12 1 25	6 00 7 00	20 00 25 00
Silver Bow.....	1 00 1 50	7 00 9 00	28 00 35 00
Teton.....	1 00 1 75	7 00 8 50	28 00 34 00
Valley.....	1 00 2 00	7 00 8 00	26 00 30 00
Yellowstone.....	1 25 2 00	6 00 8 00	20 00 30 00
State.....	1 00 to 1 75	6 44 to 8 52	23 33 to 32 05

Carbon and Sweet Grass counties were created in 1895, principally out of Park and Yellowstone counties, and rates are about the same.

"Bunch grass" is the prevailing native grass of Montana. Instead of sending up a single stalk, it "stools out" and grows in "bunches" as its name indicates. It is exceedingly nutritious and stands almost any amount of dry weather, although growing more thriftily in wet seasons. It cures as it stands without losing its nutritious qualities. Stock graze on it the year round, feeding on the old grass until the new comes. In many places, where not grazed down, it is mown for hay on the unenclosed prairie.

"Barley" is an exceptionally good crop in Montana. The yield is very large, as will be seen by the statistical tables, and the quality unexcelled. The grain is heavy and bright, being matured and harvested without rain, and it takes first rank for malting and brewing purposes. The Manhattan Company of New York has 28,000 acres of land in one body in the Gallatin Valley and has several thousand acres under cultivation almost exclusively in barley. It malts its own product at Manhattan for shipment east. Barley always finds good market at fair prices.

COST OF GROCERIES AND MEATS, WHOLESALE AND RETAIL, AS AVERAGED FROM REPORTS OF DEALERS IN PLACES NAMED IN MONTANA FOR THE 12 MONTHS ENDED JUNE 30, 1894.

Count es.....	Beaverhead	Cascade.	Choteau.	Custer.	Dawson.	Deer Lodge, Anaconda and Bald Butte.	Fergus.	Flathead.	Gallatin.	Granite.	Jefferson.
ARTICLES.	Quantity.										
Flour: 1st Qual. Imp..	100 lbs	\$2.90	\$2.75	\$2.50	\$2.25-2.50	\$2.94	\$3.75	\$2.40	.....	.....	\$2.86
Flour: 1st Qual. Imp..	Pound	.081%	.08	.02%	.02%	.03	.....	2½-3	.....	.....	.08
Flour: 1st Qual. Mont.	100 lbs	2.25	2.52½	2.02	.....	2.60	3.25	2.00	\$2.32½	2.15	2.65
Flour: 1st Qual. Mont.	Pound	.2%	.023%	.024%	.....	.3	.....	1½	.03	.02%	.023%- .03
Flour: 2d Qual. Imp..	100 lbs	1.75	2.25	2.00	2.00	2.83	.....	2.00-2.25	.....	.....	.....
Flour: 2d Qual. Imp..	Pound	.02	.02½	.02½	.02½	.....	.....	2½-3	.....	.....	.....
Flour: 2d Qual. Mont.	100 lbs	1.75	2.00	.....	.....	1.60¾	2.50	1.50	1.45-1.75	1.90	1.75
Flour: 2d Qual. Mont.	Pound	.02½	.02½	.....	.....	.02	.....	.62	.02	.02	.02
Corn Meal	100 lbs	1.67½	8.37½	2.17½	2.25	2.18½	3.50	2.10½	2.20	.....	.....
Roll'd Oats	Pound	.62½	.08	.02½	.02½	.023%	.....	.08-1.6	.02½	.02½	.....
Roll'd Oats	100 lbs	8.37½	8.72½	3.00	4.00	4.16¾	5.00	3.90½	3.75	4.00	3.87½
Roll'd Oats	Pound	.04	.04½	.05	.....	.054%	.....	.04-1.6	.04½	.04½	.04½
Sugar	100 lbs	5.88¾	5.93½	6.05	5.45-5.75	6.00	7.00	5.83½	6.00	6.25	5.87½
Sugar	Pound	.063%	.063%	.063%	.06	.067%	.....	.073%	.063%	.067%	.07-1.6
Tea	Wh. lb	31	30-70	30	37½	46½	.50	35	.40	.32	40-65
Tea	Ret. lb	40	27½	30	37½	46½	.....	35	.40	.32	40-65
Coffee	Wh. lb	50-1.00	45	48½	43¾	57½	.....	40	.43½	.32	.60-1.97
Coffee	Ret. lb	25	36	38½	34	57½	.....	40	.43½	.32	.60-1.97
Lard	Wh. lb	27½-1.11	19½	19½	27	35½	27	30	.24½	.24½	.....
Lard	Ret. lb	13¾	11	12½	11	11½	12½	30½	.25%- .43	.35	.27½
Bacon	Wh. lb	14½	14½	12½	13	14	12½	.69½	.13	.11½	.12½
Bacon	Ret. lb	10¾	13	12½	13	14	13	12½	.14½	.14	.12½
Ham	Wh. lb	10¾	13	12½	13	14	13	12½	.14½	.14	.12½
Ham	Ret. lb	12½	15	14½	14	15	13	12½	.14½	.14	.12½
Butter	Wh. lb	.82½	.15	.22½	.22	.35	.30	.14	.....	.35	.22½
Butter	Ret. lb	.26¾	.35	.33%	.....	.30	.....	.27	.....	.30	.25
Eggs	Wh. Case	5.50	5.30	.....	8.60	4.83½	.....	4.55½	.....	.....	5.50
Eggs	Ret. Doz	19½	22½	.33%	15	23	20	21½	15½	35-30	.25
Potatoes	100 lbs	1.00	1.50	1.50	.....	1.18¾	2.00	1.11½	.75	.....	.95
Potatoes	Per Case	12	8.00	.01%	.02	.....	.....	.....	.01	.01%	.....
Canned Vegetables	Per Can	2.72½	1.15	.....	.....	2.75-3.25	4.00	2.35-2.75	2.40-3.63½	15	2.95
Canned Vegetables	Per Can	13¾	5.42½	12	4.60	3.25	5.50	15	4.62½	20	18½
Canned Fruits	Per Case	8.87½	4.08½	20	25	8.25-4.46	.....	4.00-4.50	2.27½	20	5.00
Canned Fruits	Per Can	.20	.27½	.20	.....	.05	.04	.35	.06	.06	.07½
Boiling Meats	Wh. lb	.05½	.....	.....	.....	.11½	.06	.08	.08	.08	.10
Boiling Meats	Ret. lb	.07	1.10	.07	14	.117%	.12½	.09	.10	.10	.10
Steaks	Ret. lb	.12½	.15	.....	.....	.....	.....	.14	.12½	.12½	.16½

POPULATION, PROPERTY, DEBT AND TAXATION.

POPULATION OF MONTANA BY COUNTIES 1870, 1880, 1890 AND 1895.

(Organized as a Territory, May 26, 1864; admitted as a State November 8, 1889.)

COUNTIES.	1870 June 1.	1880 June 1.	1890 June 1.	1895* March 31.
1. Beaverhead	732	2,712	4,655	4,501
2. Carbon (a)				
3. Cascade (b)			8,755	12,855
4. Choteau (c)	517	3,058	4,741	4,560
5. Custer (d)	38	2,510	5,308	4,826
6. Dawson	177	180	2,056	1,757
7. Deer Lodge (e)	4,367	8,876	15,155	17,839
8. Fergus (f)			3,514	5,271
9. Flathead (g)				6,947
10. Gallatin (h)	1,578	3,643	6,246	8,176
11. Granite (i)				4,578
12. Jefferson	1,531	2,464	6,026	9,044
13. Lewis and Clarke (c)	5,040	6,521	19,145	19,820
14. Madison	2,684	3,915	4,692	6,583
15. Meagher (j)	1,387	2,743	4,749	5,299
16. Missoula (k)	2,554	2,537	14,427	9,702
17. Park (l)			6,881	8,106
18. Ravalli (m)				6,594
19. Silver Bow (n)			23,744	36,806
20. Sweet Grass (o)				
21. Teton (p)				2,667
22. Valley (q)				1,421
23. Yellowstone (r)			2,065	5,138
Total	20,595	39,159	132,159	182,490

* Estimated on the basis of $3\frac{1}{2}$ persons to each vote cast for the location of the State Capital, November 6, 1894.

- a. Organized from parts of Park and Yellowstone, 1895.
b. Organized from parts of Choteau, Lewis and Clarke and Meagher, 1887.
c. Part taken to form Cascade in 1887.
d. Name changed from Big Horn in 1877; part taken to form Yellowstone in 1881.
e. Silver Bow organized from part of Deer Lodge in 1881; Granite organized from part of Deer Lodge, 1893.
f. Organized from part of Meagher in 1885.
g. Organized from northern part of Missoula, 1893.
h. Parts taken to form Yellowstone in 1881 and Park in 1887.
i. Organized from parts of Deer Lodge and Missoula, 1893.
j. Parts taken to form Fergus in 1885, Cascade in 1887, and Sweet Grass in 1895.
k. Parts taken to form Flathead, Ravalli and Granite, 1893.
l. Organized from part of Gallatin in 1887.
m. Organized from part of Missoula, 1893.
n. Organized from part of Deer Lodge, 1881.
o. Organized from parts of Park, Yellowstone and Meagher, 1895.
p. Organized from part of Choteau, 1893.
q. Organized from part of Dawson, 1895.
r. Part taken to form Sweet Grass and Carbon, 1895.

PERSONAL PROPERTY IN MONTANA AS ASSESSED BY COUNTY ASSESSORS, 1894.

Property.	Number.	Value.	Property.	Number.	Value.
State, Co., or other bonds		\$570,692	Oxen	2,567	\$49,105
Watches	4,681	59,780	Hogs	12,596	62,066
Jewelry, plate		44,432	Wheat, oats, barley		104,515
Furniture		788,710	Hay		26,653
Fire Arms	1,539	15,581	Lumber		189,291
Musical Instruments	2,457	182,890	Wood		208,667
Sewing Machines	5,455	71,069	Improvements listed by non-owners		898,204
Libraries		85,611	Money		2,407,183
Merchandise		4,606,378	Credits, etc		1,262,916
Store Fixtures, etc		391,694	Mortgages		5,042,772
Farm Utensils		239,235	Other personal property		4,592,340
Machinery		1,064,972	Stage companies		10,270
Wagons, vehicles	16,415	586,668	Express companies		5,587
Harness, robes		241,935	Gas Companies		79,430
Horses, all grades	184,633	3,597,867	Wate companies		683,463
Cows	28,473	582,819	Street Railroads		206,530
Stock Cattle	642,427	9,711,197	Electric Light Cos.		180,465
Sheep	2,228,875	3,388,421	Ferries		5,375
Mules	926	30,303			
			Total		\$42,304,906

TOTAL ASSESSED VALUATION OF PROPERTY IN MONTANA, 1894, BY COUNTIES,
AFTER EQUALIZATION.

COUNTIES.	Real Property.	Personal Property.	Assessed by State Board of Equalization.	Total.
Beaverhead	\$1,352,215	\$1,615,864	\$392,400 00	\$3,360,479 00
Cascade	8,457,051	2,188,815	642,740 00	11,288,606 00
Choteau	727,184	2,279,191	1,094,520 00	4,100,895 00
Custer	1,185,401	5,298,574	409,374 00	6,888,349 00
Dawson	268,738	1,640,826	177,187 50	2,086,751 50
Deer Lodge	4,006,819	1,721,310	373,742 00	6,101,871 00
Fergus	1,351,318	2,601,254	.....	3,952,572 00
Flathead	1,521,650	632,020	790,000 00	2,943,670 00
Gallatin	4,296,554	1,722,474	253,762 00	6,272,790 00
Granite	1,049,800	873,043	212,246 00	2,135,089 00
Jefferson	1,472,248	1,861,821	788,000 50	4,122,069 50
Lewis and Clarke	12,245,866	4,651,284	494,041 50	17,391,191 50
Madison	1,386,503	1,475,604	178,500 00	3,040,607 00
Meagher	2,348,165	1,967,467	157,472 50	4,513,104 50
Missoula	2,801,532	1,341,537	1,039,178 00	5,182,247 00
Park	2,717,199	1,588,680	383,247 50	4,689,126 50
Ravalli	1,129,166	713,104	136,156 00	1,978,926 00
Silver Bow	11,017,090	9,018,055	469,448 00	20,504,593 00
Teton	582,324	824,813	714,000 00	2,121,137 00
Valley	480	959,870	816,000 00	1,776,350 00
Yellowstone	1,653,333	2,206,693	540,441 50	4,400,467 50
Total	\$61,610,636	\$47,177,799	\$10,062,457 00	\$118,850,892 00

Mines are not taxed. Net proceeds of mines and improvements on mining property are subject to taxation.

TOTAL ASSESSED VALUE OF PROPERTY IN MONTANA 1870-1894.

Years.	Amount.	Years.	Amount.	Years.	Amount.
1870	\$8,762,735	1879	\$15,508,881	1888	\$67,430,534
1871	9,271,990	1880	18,609,802	1889	79,376,944
1872	10,176,988	1881	24,040,806	1890	112,937,384
1873	9,808,745	1882	32,211,319	1891	142,205,428
1874	9,384,311	1883	44,698,461	1892	129,456,942
1875	10,062,904	1884	49,746,269	1893	127,548,175
1876	9,939,541	1885	52,847,536	1894	118,850,892
1877	11,193,874	1886	55,076,872		
1878	12,777,028	1887	60,099,493		

TAX LEVIED ON PROPERTY IN THE SEVERAL COUNTIES IN 1894 FOR ALL
COUNTY AND STATE PURPOSES.

COUNTY.	State	Stock Inspector and Detective.	Stock Indemnity	County	Poor	School	Road	Bridge	Interest and Sinking	Total Levy (Mills).....
Beaverhead	2½	.....	½	9	.....	4	2½	.....	1½	19½
Cascade	2½	.....	.....	6	1	3	2½	.....	.....	15
Choteau	2½	1½	.....	10	1	3	1½	½	.....	20
Custer	2½	1½	.....	5	.....	4½	2	1	3½	20
Dawson	2½	1½	½	8½	.....	3	1½	.....	2½	20
Deer Lodge	2½	1½	½	1	1	5	2	½	.....	14
Flathead	2½	.....	.....	8½	2	3	1½	1½	2	21
Fergus	2½	.....	.....	9	1½	4	2	.....	1½	20½
Gallatin	2½	.....	½	2½	1½	3	1	1	1	11½
Granite	2½	SI & I ½	½	8	1	4	1½	.....	.....	18
Jefferson	2½	.....	1-10	10½	.....	3½	2	.....	.....	18 6-10
Lewis and Clarke	2½	1½	½	1	½	4½	.....	.....	½	11
Madison	2½	.....	1-10	7	1½	5	2	1	.....	19 1-10
Meagher	2½	1½	½	11½	1	3	2	.....	.....	22
Missoula	2½	.....	½	6½	½	3	1	.....	.....	14
Park	2½	1½	.....	6½	1	4	1½	1½	3	21½
Ravalli	2½	.....	½	10	.....	4	1	.....	2½	20½
Silver Bow	2½	1½	½	4½	1½	5	1	.....	½	17
Teton	2½	.....	.....	9½	½	1½	1¾	.....	1¾	17½
Valley	2½	.....	.....	6	2	3	1	.....	2½	17
Yellowstone	2½	1½	.....	8	½	3	2	1	2½	21

TOTAL NET INDEBTEDNESS OF THE SEVERAL COUNTIES OF THE STATE,
FEBRUARY 28TH, 1892, 1893, 1894, 1895.

COUNTIES.	Debt Feb. 28, 1892	Debt Feb. 28, 1893	Debt Feb. 28, 1894	Debt Feb. 28, 1895
Beaverhead	\$71,749 62	\$64,033 98	\$72,813 84	\$59,562 34
Cascade	236,092 80	279,596 67	260,373 39	237,707 99
Choteau	134,936 26	141,243 35	140,019 41	156,173 09
Custer	195,967 19	214,891 98	223,892 51	235,654 78
Dawson	87,558 38	76,703 91	51,978 53	54,756 27
Deer Lodge	88,230 34	49,493 46	109,988 32	165,533 45
Fergus	48,225 18	72,701 30	79,944 82	82,915 61
Flathead (1) .....	.....	.....	95,333 02	125,587 54
Gallatin	76,062 33	76,329 11	95,667 04	115,398 56
Granite (2) .....	.....	.....	37,837 84	54,834 59
Jefferson	147,819 02	163,973 97	162,138 90	151,363 55
Lewis and Clarke	91,641 98	123,631 80	119,425 92	184,904 21
Madison	86,130 70	79,822 30	79,061 50	77,055 20
Meagher	132,443 83	165,173 90	178,915 63	177,399 17
Missoula	303,657 32	402,664 73	289,964 31	327,455 34
Park	98,020 00	118,186 94	180,236 23	198,804 00
Ravalli (3) .....	.....	.....	78,550 34	89,982 62
Silver Bow	58,796 50	42,381 55	106,053 22	102,265 83
Teton (4) .....	.....	.....	35,787 57	56,115 07
Valley (5) .....	.....	.....	60,581 35	78,641 59
Yellowstone	128,388 64	126,734 88	126,046 42	123,942 91
Total	\$1,985,720 09	\$2,197,563 83	\$2,584,910 11	\$2,856,053 71

1, Organized March 1, 1893. 2, Organized March 2, 1893. 3, Organized April 1, 1893. 4, Organized March 1, 1893. 5, Organized March 1, 1893.

NOTE.—The State Constitution limits the aggregate indebtedness which may be incurred by the State to \$100,000, except in case of war or to suppress insurrection, unless the law authorizing it shall first have been submitted to and approved by the people at a general election. The levy of taxation for State purposes is limited to 2½ mills.

No County is allowed to become indebted for any purpose to an amount exceeding 5 per cent of the taxable property therein.

RELIGIOUS ORGANIZATIONS IN THE STATE.

LOCATION OF CHURCHES, MISSIONS AND SUNDAY SCHOOLS, WITH MEMBERSHIP,
ETC., REVISED AS PER LATEST REPORTS.

METHODIST EPISCOPAL.

LOCATION.	Members	S. S. Members	LOCATION.	Members	S. S. Members
BOZEMAN DISTRICT.					
Fannack and Lima	9	80	Kalispell	31	108
Billings	60	75	Lower Flathead Circuit	22	46
Bozeman	190	225	Marysville	31	98
Bozeman Circuit	48	98	Missoula	93	112
Dillon	104	160	New Chicago	23	150
E. Gallatin Circuit	46	93	Philipsburg and Granite	141	214
Glendive	44	105	S. Butte and Meaderville	27	221
Livingston	100	123	Stevensville	68	58
Livingston Circuit	23	60	Stillwater Circuit	32	47
Meadow Creek Circuit	29	46	Walkerville and Centerville ..	55	442
Miles and Forsyth	60	87	NORTH MONTANA MISSION.		
Park City and Columbus	26	40	Augusta	11	.....
Red Lodge	20	52	Choteau	5	28
Townsend	45	94	Chinook	42	84
Twin Bridges	49	112	Epworth Piegian Indian Mis ..	.....	32
Virginia City	15	127	Fort Benton	28	53
Whitehall	33	90	Great Falls	139	290
White Sulphur Springs	39	47	Havre and Glasgow	16	93
HELENA DISTRICT.			Lewistown	54	106
Anaconda	98	181	Neihart and Monarch	53	115
Butte City	186	190	Philbrook	76	101
Columbia Falls	36	50	St. Clair Circuit	61	100
Elkhorn	43	154	Sand Coulee	70	330
Helena (2)	255	337	Total	2,666	5,554

EPISCOPAL.

LOCATION.	Members	S. S. Members	LOCATION.	Members	S. S. Members
Anaconda estab 1886	44	73	Helena..... 1867	412	225
Argenta and Lima Mis .. 1891	10	.....	Kalispell..... 1891	32	32
Big Timber.....	5	.....	Livingston..... 1883	53	30
Billings..... 1883	45	20	Madison Valley Mission .. 1876	27	32
Bitter Root Valley Mis.... 1890	25	.....	Marysville..... 1883	29	36
Boulder..... 1883	24	.....	Miles City..... 1882	30	61
Bozeman..... 1875	76	70	Missoula..... 1877	112	55
Butte..... 1878	150	110	Neihart..... 1891	16	25
Castle..... 1891	2	.....	Philipsburg..... 1886	18	45
Deer Lodge..... 1871	42	50	Red Lodge..... 1889	15	.....
Dillon..... 1881	61	60	Sheridan..... 1886	14	.....
Fort Benton..... 1879	23	40	Townsend..... 1883	22	.....
Fort Keogh.....	12	.....	Virginia City..... 1867	50	75
Gallatin Valley Mission .. 1884	13	.....	White Sulphur Springs... 1890	25	.....
Glendive..... 1882	20	25	Miscellaneous.....	174	.....
Granite..... 1886	18	.....		
Great Falls..... 1886	112	210	Total.....	1,711	1,284

PRESBYTERIAN.

Anaconda.....	74	110	Lewistown.....	37	80
Armells.....	15	.....	Libby.....	.....	.....
Boulder.....	55	90	Manhattan, 2....	48	75
Bozeman.....	164	240	Miles City.....	84	85
Basin.....	16	100	Missoula.....	113	159
Butte, 2.....	242	720	Philbrook.....	17	15
Corvallis.....	26	38	Philipsburg.....	35	56
Deer Lodge.....	65	167	Pony.....	11	60
Dillon.....	43	66	Springhill.....	10	25
Granite.....	17	62	Stevensville.....	16	34
Grantsdale.....	5	35	Victor.....	14	25
Great Falls.....	170	244	Wickes.....	9	50
Hamilton.....	26	83	White Sulphur Springs.....	46	50
Havre.....	12	40			
Helena, 2.....	263	450	Total.....	1,668	3,319
Kalispell.....	35	160			

CHRISTIAN.

Anaconda.....	88	78	Great Falls.....	20	.....
Bozeman.....	157	87	Hamilton.....	20	.....
Butte.....	156	35	Helena.....	85	30
Cascade.....	39	23	Highwood.....	16	.....
Camas Prairie.....	14	.....	Hogan.....	36	39
Corvallis.....	124	55	Lewistown.....	36	35
Darby.....	21	30	Missoula.....	104	110
Deer Lodge.....	87	91	South Boulder.....	16	.....
Fish Creek.....	26	69	Virginia City.....	53	62
Florence.....	26	50			
			Total.....	1,124	794

BAPTIST.

Boulder..... est. 1885	22	38	Helena..... est. 1878	304	409
Bozeman..... 1883	48	130	Kalispell..... 1892	26	38
Butte..... 1882	101	150	Livingston..... 1888	38	50
Butte, Swedish..... 1892	19	.....	Miles City..... 1882	12	.....
Corvallis..... 1888	19	.....	Missoula..... 1890	62	70
Dillon..... 1882	39	95	Pageville..... 1886	40	56
East Gallatin..... 1884	45	203	Stanford.....	9	.....
Great Falls..... 1889	73	120	Stevensville..... 1882	47	35
Great Falls, Swedish.....	15	34			
Hamilton.....	19	30	Total.....	138	1,458

M. E. CHURCH SOUTH.

LOCATION	Members	S. S. Members	LOCATION	Members	S. S. Members
Belgrade and Shields River	60	28	Great Falls .....	.....	.....
Boulder Station	45	50	Hamilton and Corvallis	60	25
Bozeman	107	110	Helena	80	90
Bozeman Circuit	65	30	Stevensville	130	65
Butte City	120	50	Townsend Circuit	30	30
Deer Lodge	45	48	Wallace Station	30	.....
Demarsville .....	.....	.....	Willow Creek and Whitehall ..	70	90
East Helena and Alhambra ..	35	30	Victor Circuit	25	.....
Grantsdale Circuit	15	.....	Total	917	646

CONGREGATIONAL.

Big Timber	25	30	Helena	120	85
Billings	75	140	Livingston	80	80
Bonner	13	45	Missoula	15	50
Butte	78	90	Red Lodge	35	150
Castle	12	53	Total	498	763
Great Falls	40	50			

GERMAN LUTHERAN.

Anaconda	28	.....	Helmville	15	.....
Bozeman	16	.....	Kalispell	18	.....
Butte	50	30	Miles City	10	.....
Deer Lodge	20	.....	Missoula	12	.....
Dillon	10	.....	Muir	8	.....
Glen	8	.....	Sheridan	10	.....
Great Falls	60	25	Total	350	113
Helena	85	58			

ROMAN CATHOLIC.

Counties.	Organizations.	Members	Counties.	Organizations.	Members
Beaverhead	4	82	Lewis and Clarke	9	4,326
Cascade	4	1,756	Madison	3	214
Choteau	8	595	Meagher	5	341
Custer	7	1,231	Missoula	16	3,600
Dawson	2	258	Park	2	510
Deer Lodge	15	5,000	Silver Bow	1	10,000
Fergus	3	432	Yellowstone	1	176
Gallatin	6	530	Total	94	29,309
Jefferson	8	268			

LOCATION OF CATHOLIC CHURCHES.

Where Located.	Where Located.	Where Located.
Anaconda	Glasgow	Marysville
Augusta	Glendive	Miles City
Billings	Granite	Missoula
Boulder Valley	Great Falls	Missouri Valley
Boulder City	Have	Philipsburg
Bozeman	Hamilton	Pryor Creek
Butte	Harlem	St. Francis Xavier Mission
Columbia Falls	Helena, 1 (Cathedral)	St. Ignatius Mission
Crow Agency	Helena, 2 St. Helena	St. Labres Mission
Deer Lodge	Helmville	St. Paul's Mission
Dillon	Holy Family	St. Peter's Mission
Flathead Agency	Horse Plains	Stevensville
Flint Valley	Kalispell	Sun River
Florence	Lewistown	Three Forks
Frenchtown	Laurin	Virginia City
Fort Benton	Livingston	White Sulphur Springs

EDUCATIONAL STATISTICS (BY COUNTIES) RELATING TO MONTANA FOR THE
YEAR ENDED AUGUST 31, 1894.

From Report of State Superintendent of Public Instruction.

COUNTIES.	Number of resident children between 6 and 21 years of age Aug. 31, 1894	Number of children attending Public School during year	Number of Private Schools	No. of Children attending private schools	Whole number of days in all the terms for the school year	Number of Public School Houses	Value of School Houses and Sites
	Number.	Scholars.	No.	No.	Days.	Houses	Dollar..
Beaverhead	1,204	875	1	4	2,473	21	22,880
Cascade	2,466	2,040	4	69	3,739	42	130,050
Choteau	973	479	.....	.....	2,363	19	58,502
Custer	1,299	697	2	39	2,732	28	36,427
Dawson	331	246	.....	.....	1,079	7	11,605
Deer Lodge	2,591	1,746	4	59	3,488	33	209,216
Fergus	1,184	747	2	22	2,911	30	19,805
Flathead	1,168	859	1	.....	2,210	19	14,780
Gallatin	2,255	1,942	.....	.....	5,442	50	104,645
Granite	913	828	.....	.....	1,595	15	21,319
Jefferson	1,244	846	2	20	2,742	28	23,740
Lewis and Clarke	3,451	2,871	2	.....	3,970	39	443,035
Madison	1,448	1,057	1	12	2,900	33	28,326
Meagher	794	708	3	6	2,999	24	25,520
Missoula	2,077	1,386	2	78	3,127	23	90,145
Park	1,893	1,525	1	7	3,397	38	59,635
Ravalli	1,514	1,268	3	42	3,510	32	25,000
Silver Bow	5,476	4,035	3	462	940	22	305,000
Teton	317	150	.....	.....	540	3	5,900
Valley	202	111	1	16	420	3	5,400
Yellowstone	762	557	.....	3	2,323	21	19,500
Total	33,562	24,973	32	839	54,900	529	1,660,730

CONTINUED.

COUNTIES.	No. TEACHERS EMPLOYED AT SAME TIME FOR 12 WEEKS OR MORE.			TIME SCHOOL WAS KEPT.		Amount paid for Teacher's wages during year.	Total Receipts for all School Purposes.
	Male.....	Female..	Total....	Months..	Days....		
	No.	No.	No.	Mos.	Days	Dollars.	Dollars.
Beaverhead.....	5	25	30	122	36	12,174 10	20,082 13
Cascade.....	22	57	79	187	8	39,223 16	87,645 09
Choteau.....	6	16	22	118	35	8,952 95	24 828 62
Custer.....	10	19	29	146	9	16,018 27	37,410 58
Dawson.....	2	9	11	54	.....	4,830 00	8,187 84
Deer Lodge.....	9	45	54	166	147	31,737 50	63,042 74
Fergus.....	9	29	38	145	11	12,301 41	19,472 49
Flathead.....	14	13	27	106	7	8,251 07	38,365 04
Gallatin.....	20	45	65	263	182	19,358 06	38,490 35
Granite.....	.....	30	20	81	25	9,665 75	18,653 55
Jefferson.....	12	28	40	143	15	12,042 17	24,538 02
Lewis and Clarke.....	10	73	83	199	175	53,211 61	145,361 78
Madison.....	12	35	47	84	93	12,509 33	20,579 79
Meagher.....	9	21	30	146	159	14,786 41	23,344 18
Missoula.....	3	33	36	158	7	17,984 70	36,061 57
Park.....	12	42	54	169	120	18,171 11	35,393 90
Ravalli.....	14	23	37	173	2	10,243 36	20,715 71
Silver Bow.....	12	80	92	45	16	61,866 75	113,611 58
Teton.....	2	2	4	27	540	2,545 00	9,190 70
Valley.....	.....	5	5	23	25	1,000 00	6,830 26
Yellowstone.....	9	19	28	118	23	9,708 50	22,646 99
Total.....	187	614	801	2,752	4	376,583 21	814,402 91

Average compensation of teachers in the State, 1894; Males, \$65.20; Females, \$46.95.

Number of Pupils enrolled 25,270; Average daily attendance 16,424.

Expenditure per capita of average attendance \$42.28.

FREE PUBLIC LIBRARIES IN MONTANA.

(Statistics Collected by Frank C. Patten, Librarian, Helena Public Library.)

Place.	Year Founded..	Number of Volumes..	Number of Current Pe- riodicals ..	Vols. Loan'd for Home Use in 1894	Funds for 1894..	Remarks.
Anaconda.....	1895	1,842	80	.....	.....	Hearst Free Library (a).
Bozeman.....	1892	2,877	none	13,134	\$ 950	Maintained by city tax of ½ mill
Butte.....	1892	17,396	148	64,217	12,774	Maintain'd by city tax of 1 mill (b)
Dillon.....	1888	940	9	3,005	200	No tax; supported by donations
Great Falls.....	1889	2,517	17	20,000	3,500	Valeria Public Library; main- tained by city (c).....
Helena.....	1886	15,550	365	63,434	7,475	Maintain'd by city tax of ½ m. (d)
Missoula.....	1894	1,330	51	(e) 5,382	1,200	Maintain'd by city tax of ½ mill..
Helena.....	1870	16,000	90	ref. only	4,650	State Library; Two Dept's.....

(a) Given and supported by Mrs. P. A. Hearst. (b) Started in 1891 by C. X. Larabee donating, \$10,000 and citizens an equal amount for book fund. (c) Building and some books given by Mrs. Paris Gibson. (d) Maintained as a subscription library, 1868 to 1886. (e) These 5,382 loans are for five months only.

COLLEGE AND ACADEMY LIBRARIES IN MONTANA.

Place.	Name of Institution.	Year Founded..	Number of Volumes..	Number of Current Pe- riodicals...	Book Fund 1894..
Bozeman.....	Montana College of Agriculture and Me- chanic Arts.....	1894	1,500	41	\$1,300
Deer Lodge.....	College of Montana.....	1883	2,500	26	.....
Helena.....	Montana Wesleyan University.....	1891	600	20	50
Helena.....	St. Vincent's Academy.....	1870	550	10	.....
Twin Bridges.....	Montana Normal Training School.....	1891	350	11	120

In 1894 there were 7,950 volumes reported as belonging to Public School Libraries, as many as 800 volumes in some schools. Those having over 200 volumes are in the following places: Anaconda, Belgrade, Bozeman, Butte, Deer Lodge, Dillon, Fort Benton, Glendive, Great Falls, Helena, Livingston, Miles City, Missoula, Philipsburg, Sun River, White Sulphur Springs. There are in the State other small Libraries and Reading Rooms to the number of 15 or 20.

There are now in Montana 10 gold mills, 18 silver mills, eight copper smelters and twenty-five concentrators. The gold, silver, copper and lead product of the state in 1894 was reported by the United States Assay Office to be \$39,446,919.

The high altitudes of Montana extend north and south along the Rocky Mountains; the eastern and extreme western parts of the State fall away to lower altitudes and milder temperatures.

Generally speaking, the eastern portions of Montana are devoted to stock raising and agriculture, with some mining; the extreme western tier of Counties possess fine agricultural valleys and some good mineral belts. The mid-western tier of Counties, lying north and south along the Rocky Mountains and their spurs, contain most of the great productive precious and semi-precious metal mines which are yielding over forty million dollars annual product and have properly led Montana to be denominated "The Treasure State." There are many fertile and productive agricultural valleys in the mineral districts.

NEWSPAPERS AND PERIODICALS OF MONTANA.

Summary, from Ayer & Sons American Newspaper Annual, 1895—Revised.

Where Published.	County.	Name of Paper.	Issued Daily	Price per year	Issued Weekly	Price per year	Politics, etc.
Anaconda	Deer Lodge	Standard	yes	\$10 00	no		Dem.
		Recorder	no		yes	\$3 00	Rep.
Armington	Cascade	Belt Valley Times				2 50	
Basin	Jefferson	Times				2 50	Ind.
Big Timber	Sweet Grass	Pioneer				2 00	Local
Billings	Yellowstone	Gazette				3 00	Rep.
		Times				3 00	Dem.
		Yellowstone Valley Recorder				2 50	
Boulder	Jefferson	Age				2 00	S. Tax.
		Sentinel				2 50	Ind.
Bozeman	Gallatin	Avant Courier				2 50	Rep.
		Chronicle				2 50	Dem.
		New Issue				2 00	Pro.
Butte City	Silver Bow	Bystander				3 00	Labor
		Inter-Mountain	yes	10 00	(a)	4 00	Rep.
		Miner		10 00	yes	2 00	Dem.
		Mining and Market Reporter	no			4 00	Mining
		Tidende og Skandinav				1 00	
		Tribune				2 00	Pop.
		Railway Review				2 00	Labor
Ch nook	Choteau	Opinion				2 50	Ind.
Choteau	Teton	Montanian				3 00	Rep.
		Teton Times				3 00	Dem.
Columbia Falls	Flathead	Columbian				3 00	Ind.
Columbus	Yellowstone	Bulletin				2 50	
		Express				2 50	Rep.
Corvallis	Ravalli	Montana Methodist				1 00	Meth.
Deer Lodge	Deer Lodge	Montana Churchman			(b)	1 00	Episc.
		New Northwest			yes	3 00	Pop.
		Silver State				3 00	Dem.
Dillon	Beaverhead	Examiner					Dem.
		Baptist Record			(b)	1 00	Bapt.
		Rockies			(b)	1 00	Lit & E
		Tribune			yes	3 00	Rep.
Fort Benton	Choteau	River Press	yes	10 00		2 00	Rep.
Glasgow	Valley	Gazette	no			3 00	Ind.
		Record				2 50	Rep.
Glendive	Dawson	Independent				2 00	Rep.
Great Falls	Cascade	Leader	yes	10 00		3 00	Rep.
		Montana Herald	no			3 00	Germ'n
		Montana Illustrated			(b)	1 25	Lit & Il
		News			yes	2 00	Pop.
		Tribune	yes	7 00		1 50	Dem.
Hamilton	Ravalli	Bitter Root Times	no			2 50	Ind.
		Western News				50	
Hartford	Jefferson	Hartford Pioneer				3 00	Mining
Havre	Choteau	Advertiser				3 00	Ind.
		Herald				3 00	Dem.
Helena	Lewis and Clarke	Herald	yes	\$9 00	yes	2 00	Rep.
		Independent		10 00		2 00	Dem.
		Christian Advocate	no		(c)	1 00	Meth.
		Montana Mining Area				1 00	Mining
		Staats Zeitung			(d)	5 00	Ind.
		Stockman and Farmer			yes	2 00	Agr.
		Montana Workman			(b)	1 00	a. o. u. w.
		News			yes	2 00	Pop.
Kalispell	Flathead	Herald-Journal				3 00	Dem.
		Graphic				3 00	Rep.
		Inter Lake				2 50	
Landusky	Choteau	Miner and Prospector				2 50	
Lewistown	Fergus	Fergus County Argus				2 50	Rep.
		Montana Democrat				2 00	Dem.
Livingston	Park	Enterprise				3 00	Rep.
		Herald				2 00	Dem.
		Post				3 00	Rep.
Lump City	Jefferson	Lump Gulch Miner				2 00	Ind.
Marysville	Lewis and Clarke	Messenger				2 00	
		Mountaineer				3 00	Ind.
Miles City	Custer	Stock Growers' Journal				3 00	Stock
		Yellowstone Journal	yes	10 00		3 00	Rep.
Missoula	Missoula	Missoulian		9 00		3 00	
		Montana Silverite	no			2 00	Pop.
		Evening Republican	yes	10 00	no		Rep.
		Western Democrat		9 00	yes	2 50	Dem.

Place Where Published.	County.	Name of Place.	Issued Daily....	Price Per Year.	Issued Weekly.	Price Per Year.	Politics, Etc....
Missoula	Missoula	Montana Fruit Grower	no ..	.....	(b)	1 00	Hort.
Neihart	Meagher	Herald	no ..	.....	yes ..	3 00	Rep
"	"	Miner .....	" ..	.....	" ..	3 00	Dem.
Philipsburg	Granite	Citizens' Call .....	" ..	.....	" ..	3 00	Local ..
"	"	Mail .....	" ..	.....	" ..	3 00	Ind.
Red Lodge	Carbon	New Idea .....	" ..	.....	" ..	3 00	" ..
"	"	Picket .....	" ..	.....	" ..	3 00	Rep
Stevensville	Ravalli	Northwest Tribune .....	" ..	.....	" ..	3 00	Dem.
"	"	Ravalli Republican .....	" ..	.....	" ..	1 00	Rep
Sun River	Cascade	Rising Sun .....	" ..	.....	" ..	3 00	" ..
Townsend	Meagher	Messenger .....	" ..	.....	" ..	3 00	Dem.
Twin Bridges	Madison	Madison County Monitor ..	" ..	.....	" ..	2 50	Ind.
Virginia City	"	Madisonian .....	" ..	.....	" ..	2 50	Rep
Wh. Sul. Springs ..	Meagher	Meagher County News .....	" ..	.....	" ..	3 00	I. Rep.
"	"	Rocky Mount'in Husbandman ..	" ..	.....	" ..	3 00	Agr.

(a) Semi-weekly. (b) Monthly. (c) Semi-monthly. (d) Tri-weekly.

NOTE.—Papers may be addressed by name for subscriptions or sample copies. If other duties permit, editors will promptly and intelligently respond to requests for information relating to their respective localities.

DIRECTORY OF CERTAIN OFFICERS IN MONTANA.

UNITED STATES SENATORS:—Thomas H. Carter, Helena; Lee Mantle, Butte.

REPRESENTATIVE IN CONGRESS:—Charles S. Hartman, Bozeman.

UNITED STATES OFFICERS, Helena:—Hiram Knowles, Judge U. S. District Court; Preston H. Leslie, U. S. District Attorney; William McDermott, U. S. Marshal; John S. M. Neill, Surveyor General; A. E. Lyman, Collector Int. Rev.

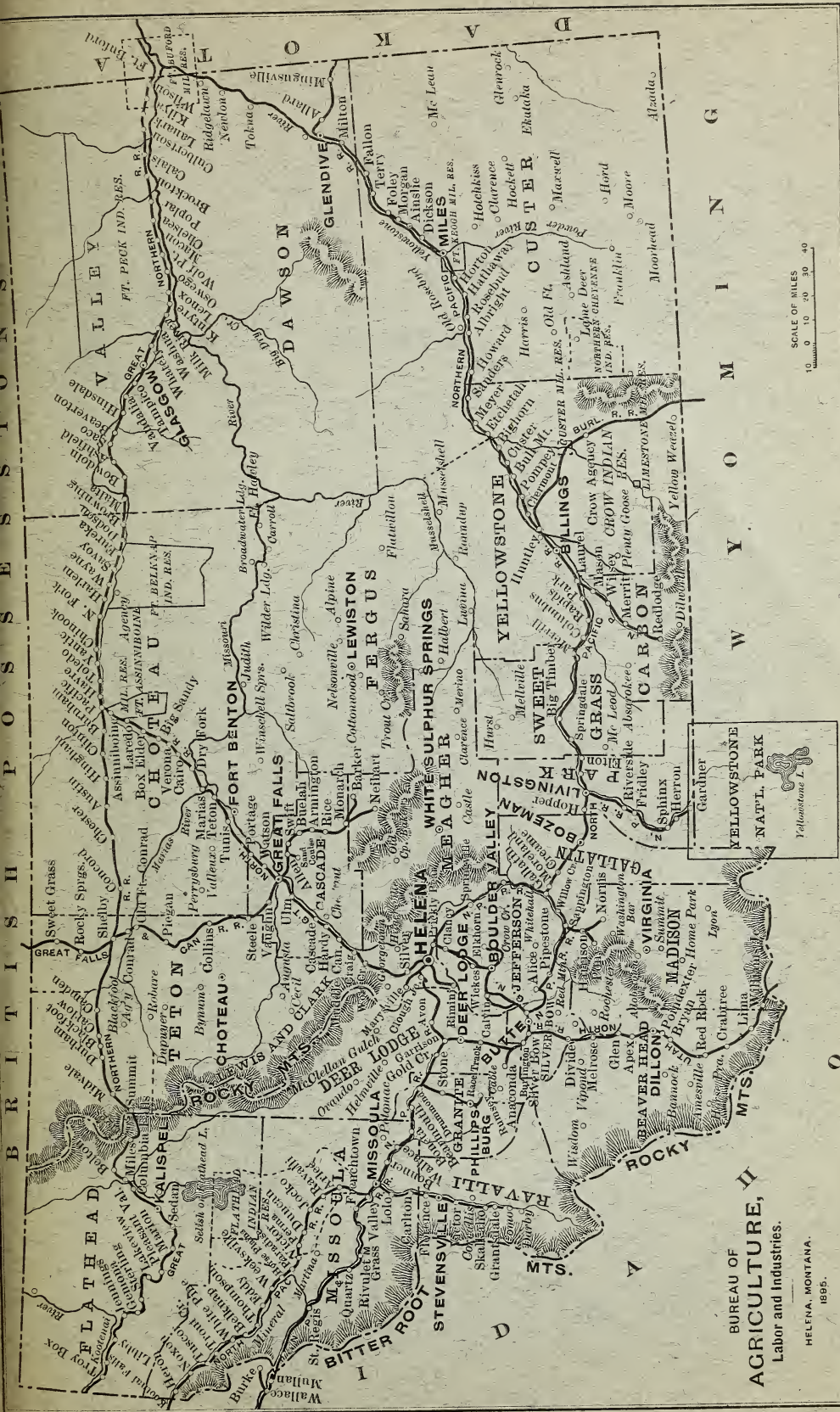
STATE OFFICERS, Helena:—J. E. Rickards, Governor; A. C. Botkin, Lieut. Governor; L. Rotwitt, Secretary of State; H. J. Haskell, Attorney General; F. W. Wright, State Treasurer; A. B. Cook, State Auditor; Eugene A. Steere, Supt. of Public Instruction; R. O. Hickman, State Land Agent; S. A. Swiggett, Register of State Lands.

STATE BOARD OF LAND COMMISSIONERS, Helena:—Governor Rickards, President; Attorney General Haskell; Secretary of State Rotwitt; Superintendent of Public Instruction Steere, Secretary.

STATE BOARD OF STOCK COMMISSIONERS, Helena,—John T. Murphy, President; S. S. Huntley, V. P.; W. G. Preuitt, Secretary.

AGRICULTURAL COLLEGE, Bozeman:—James Reid, A. B. President; A. M. Ryon E. M., Engineering and Mining; S. M. Emery, Horticulture; Luther Foster M. S. A. Agriculture and Botany; F. W. Traphagen, Chemistry and Natural Sciences; R. E. Chandler M. E. Mechanical Engineer and Mathematics; M. L. Williams, Veterinary Science.

AGRICULTURAL EXPERIMENT STATION, Bozeman:—S. M. Emery, Director.



MAP OF MONTANA

BUREAU OF AGRICULTURE,
Labor and Industries.

HELENA, MONTANA.
1895.

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